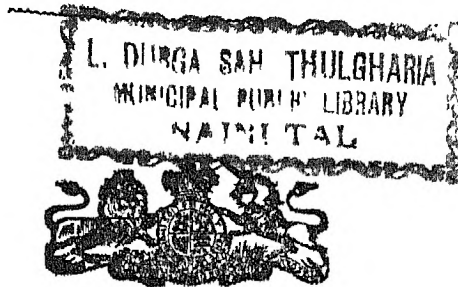


GAZETTEER
OF THE
NORTH-WESTERN PROVINCES,
MUZAFFARNAGAR DISTRICT.

Edited by
EDWIN T. ATKINSON, B.A., F.R.G.S.,
BENGAL CIVIL SERVICE.

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MUZAFFARNAGAR DISTRICT.

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MUZAFFARNAGAR, a district in the Meerut division, is bounded on the north by the Saharanpur district; on the east by the Ganges, which separates it from the Bijnaur district; on the west by the Jumna, forming the boundary between these Provinces and the

Panjab, and on the south by the Meerut district.¹ Muzaffarnagar lies between north latitude $29^{\circ}-11'-30''$ and $29^{\circ}-45'-15''$, and east longitude $77^{\circ}-3'-45''$ and $78^{\circ}-10'-45''$, with an area² in 1874 of 1,053,201 acres, or 1,615 square miles and 401 acres, and a population in 1865 returned at 682,212, and in 1872 at 690,107 souls, of whom 498,950 were Hindús, 191,097 were Musalmáns, and 60 were Christians, giving 419.5 to the square mile.³ The length of the district from north to south varies from 31 to 36 miles, and its extreme breadth is about 61 miles.

The following table shows the existing administrative subdivisions, with their Administrative subdivisions, area, population, and assessment. The area of the parganahs of the Ganges canal tract⁴ is that given in the returns of the revision of settlement as corrected in 1874; for the remainder the measurements of 1861-62 have been taken:—

Present tahsil.	INCLUDES					Population.	In the police jurisdiction of station.
	Parganah.	Entered in the <i>Ain-i-Akhbari</i> in	Number of villages in 1875.	Land-revenue in 1281 <i>fási</i> (1874 A. D.)	Area in acres in 1874.		
				Rs.			
I. Muzaffarnagar.	1 Muzaffarnagar, Sarwat, ...		64	82,160	60,564	48,888	Muzaffarnagar.
	2 Baghra, ... Baghra, ...		61	82,063	56,605	44,164	Tháwi.
	3 Chartháwal, ... Chartháwal, ...		60	61,856	59,044	34,930	Chartháwal.
	4 Púr Chhapár, ... Púr Chhapár, ...		61	69,800	59,547	33,020	Púr.
	5 Gordhanpur, ... Tughlíkpúr, ...		74	17,402	47,505	13,394	Gordhanpur.
	6 Shámli, ... Banat, ...		62	1,21,449	64,767	55,870	Shámli.
	7 Kairána, ... Kairána, ...		46	53,660	57,545	38,828	Kairána.
	8 Thána Bhawan, Thána Bhím, ...		66	67,994	57,590	41,928	Thána Bhawan.
	9 Bidauli, ... Bidauli, ...		64	29,211	55,510	23,268	Bidauli, Chausá- na.
II. Jānsath.	10 Jhanjhāna, ... Jhanjhāna, ...		62	58,638	60,117	36,090	Jhanjhāna.
	11 Jānsath, ... Jauli, ...		62	81,110	61,963	37,097	Jānsath.
	12 Khātāuli, ... Khātāuli, ...		88	88,106	62,293	49,267	Khātāuli.
	13 Bhāma, ... Bhāma and Sambhalhera.		68	52,948	80,245	55,900	Mānpur.
III. Budhāna.	14 Bhukarheri, ... Sikri-Bhukarheri.		64	78,051	78,003	39,579	Bhūma.
	16 Budhāna, ... Budhāna, ...		44	70,839	51,045	41,575	Budhāna.
	16 Shikārpur, ... Soron Fāri and Khūdi.		57	1,05,240	64,015	52,329	Shikārpur.
	17 Kāndhla, ... Kāndhla, ...		62	1,13,288	68,152	69,859	Kāndhla.
	Total, ...		1,044	12,24,675	1,053,201	690,082	

¹ The principal authorities for this notice are the official records connected with the settlement, the reports of the Sanitary Commissioners and Canal Engineers, the records of the Board of Revenue in Allahabad, notes by Mr. G. Williams, C.S., and notes and, chiefly and most largely, M. S. reports by Mr. A. Cadell, C.S., on the parganahs of the Ganges canal tract.

² The area in 1849 was given at 1,034,899 acres; in 1863 at 1,053,641 acres; in 1863-64 (settlement) at 1,033,463 acres; in 1865 at 1,054,065 acres, and by the census of 1872 the district contained 1,061,989 acres. Most of these discrepancies are explainable as due to loss by diluvion or increase by alluvion or transfer, or receipt of patches of land and villages from other districts.

³ The district details show the same number of Hindús and Musalmáns, 57 Europeans, one Eurasian, five Armenians, and one Native Christian, or a total of 690,111 souls. The parganah details give a total of 690,082 souls, and this I have followed throughout. A district return gives the population as 690,210.

⁴ The six parganahs of the Ganges canal tract referred to in this notice are Púr Chhapár, Muzaffarnagar, Khātāuli, Jauli-Jānsath, Bhāma-Sambhalhera, and Bhukarheri.

Parganah Kándhla, in the reign of Akbar, belonged to sirkár Dehli and all the remainder of the district to sirkár Saháranpur. Administrative changes.

Owing to the changes which have taken place in the boundaries of the parganahs for administrative purposes, the existing parganahs represent the Akbari mahá's only in name. Sarwat was superseded by Muzaffarnagar in Sháhjahán's reign, when parganahs Sarwat and Khátanli were bestowed upon Sayyid Muzaffar Khán, better known as Khánjahán, whose son founded Muzaffarnagar. Tughlikpur was known as Núrnagar between 1842 and 1855, and afterwards as Gordhanpur. Banat was early absorbed in Shámli, which bore the name of Shámli-Banat up to the settlement in 1860. Shámli itself formed a portion of Kairína. A village of Kairína named Muhammadpur Zanárdár formed a portion of the *jágír* of Nawáb Hákím Mukarrab Khán in the reign of Jahángír, and was bestowed by him on a follower, who founded a bazar in Muhammadpur and called it after his own name Shámli. The *jágír* remained in the family of Mukarrab Khán until the reign of Bahádur Sháh, who resumed it and formed it with a few other villages into a *tappa*, which in course of time acquired the name of a parganah. Jánsath was taken from Jauli and formed into a separate parganah through the influence of the Sayyids in the reign of Farrukhsiyár. It was incorporated with what remained of Jauli in 1842 under the name of Jauli-Jánsath and the tahsil is now usually called Jánsath. Thána Bhím derives its name from the founder of the principal town in the parganah, but since the conquest the town has been called Thána Bhawan from a celebrated Hindu temple to Bhawáni. Bhukarheri comprises the old parganah of Síkri Bhukarheri. Bhúma was a separate parganah until the settlement under Regulation IX. of 1833, when it was broken up and the greater portion was included in Bahsúma. The latter parganah was again dismembered, and the northern portions went to swell the area of the re-constituted parganah of Bhúma and part of Bhukarheri. Bhúma is now included with Sambalhera as one parganah, known as Bhúma-Sambalhera or simply Bhúma. Shikárpur is made up of portions of the two old Akbari parganahs of Soron Palri and Khúdi: the latter is the old name of the town of Shikárpur.

The district was attached to Moradabad in 1803, and as it now stands, formed in August, 1804, a portion of the Saháranpur district, which extended from the Siwálík hills as far south as the northern parganahs of the Bulandshahr district. For the first two years a portion of the district was administered by the Resident at Dehli until, in 1805-06, the unwieldy tract was divided into a northern and southern charge under Collectors stationed at Saháranpur and Meerut.¹ It was not

¹ Board's Rec., Dec. 14, 1804, No. 20. The parganahs of Etáwa to the west of Farukhabad, including Sikandrú, were attached to Aligarh, as well as Anúpsahr from Moradabad. The line separating the northern from the southern division of Saháranpur passed through Muzaffarnagar to the Káuma Ghát on the Jumna.

until 1824 that the nucleus of the present district of Muzaffarnagar was formed by creating a sub-collectorship at Muzaffarnagar, with revenue jurisdiction over parganahs Muzaffarnagar, Baghra, Shámli, Bidauli, Jhanjhána, Chartháwal, Khátauli, Jauli, Púr Chhapár, Gordhanpur, Bhukarheri, Jánsath, or Soran Soron, and Lalukheri. Mr. W. Dundas¹ was the first sub-collector, and he was succeeded in 1826 by Mr. Franco, during whose administration the sub-collectorship was converted into a regular district, and further changes took place which reduced the Saháranpur district proper to only 24 parganahs. Saháranpur lost parganahs Lakhnauti and Núrnapur at this time. Of the parganahs named above, Jauli is now included in Jánsath and Soron in Shikárpur. The next great series of changes took place in 1841, consequent on

the settlement in 1838-40, when the following transfers
Changes in 1841. were made from Saháranpur to this district:—

Parganah.	No. of villages.	Revenue.	Parganah.	No. of villages.	Revenue.	Parganah.	No. of villages.	Revenue.	Parganah.	No. of villages.	Revenue.
		Rs.			Rs.			Rs.			Rs.
Saháranpur, ...	3	1,725	Manglaur, ...	5	1,431	Nakúr ...	4	3,608	Bhawan, ...	72	59,068
Deoband, ...	10	9,490	Jauli, ...	1	600	Gangoh, ...	5	3,761	Chausatkheri	10	7,174
Rámpur, ...	1	<i>mudfi</i>	Rárki, ...	12	4,170	Nánauti, ...	5	10,312	Total ...	134	1,01,939

The following table shows the distribution of these transfers amongst the parganahs of the Muzaffarnagar district:—

Parganah.	No. of villages.	Revenue.	Parganah.	No. of villages.	Revenue.	Parganah.	No. of villages.	Revenue.	Parganah.	No. of villages.	Revenue.
		Rs.			Rs.			Rs.			Rs.
Budhána, ...	1	1,200	Jánsath, ...	1	200	Khátauli, ...	1	585	Púr, ...	3	1,000
Thána Bhawan, ...	53	46,529	Muzaffarnagar, ...	4	3,005	Kairána, ...	2	400	Total ...	134	1,01,939
Gordhanpur, ...	16	6,841	Chartháwal, ...	20	18,115	Baghra, ...	5	3,360			
Jhanjhána, ...	20	10,944	Bidauli, ...	4	1,220	Shámli, ...	4	7,880			

At the same time 93 villages, assessed at Rs. 69,781, were transferred to Saháranpur, viz., two villages assessed at Rs. 1,400 from Baghra; five at Rs. 6,015 from Púr Chhapár; 17 at Rs. 7,813 from Núrnapur, and 69 at Rs. 54,523 from Lakhnauti. Of the Lakhnauti villages, 58 were transferred to Gangoh,

¹ Mr. Dundas reports having received charge of the several parganahs in his sub-collectorship from the Hon'ble Mr. Cavendish and from the Collectors of Meerut and Saháranpur on the 2nd, 8th, and 15th March, 1824, respectively.

three to Nakúr, seven to Rámpur, and one to the Kátha parganah; and of the remainder, four were transferred to Deoband, eight to Manglaur, nine to Rúrki, and three to Jawálapur. These arrangements were sanctioned by Government and came into force from January, 1842. At the same time that these changes took place to the north, the southern boundary was enlarged by the transfer of parganahs Shikárpur, Budhána, Kándhla, Kairána, Gangeru, Phugána, Titarwára, and Bhúma Sambalhera from Meerut. Gangeru has since been absorbed in Kándhla, Titarwára in Kairána, and Phugána in Kándhla. In 1820 Gangeru contained only two villages, Titarwára had only eight, Soron six, Phugána seven, Lalukheri six, Jauli 16, and Sambalhera 16. Some idea of the changes that have taken place and of the difficulty of identifying the exact areas of the old parganahs may be gathered from a comparison of the number of maháls included in some of the parganahs in 1820 with the returns of 1860:—

Parganah.	1820		1860.		Parganah.	1820.		1860.	
	No. of maháls.	Revenue of 1819-20.	No. of maháls.	Revenue.		No. of maháls.	Revenue of 1819-20.	No. of maháls.	Revenue.
		Rs.		Rs.			Rs.		Rs.
Bhúma, ...	20	5,816	82	45,706	Kairána, ...	31	19,005	57	52,307
Baghra, ...	35	32,461	75	81,691	Khátauli, ...	78	47,669	82	61,311
Jauli, ...	12	5,810	63	5,878	Shikárpur, ...	44	60,950	62	1,08,801
Kándhla, ...	42	40,325	76	1,11,410	Shámli, ...	24	36,567	77	1,20,057

The changes in 1853-54 were chiefly internal and resulted in the transfer of 12 villages from Meerut to Muzaffarnagar, and of one village from Muzaffarnagar to Meerut, viz., two from Chhaprauli to Kándhla, five from Niloha-Tárapur to Jánsath, and five from the same parganah to Bhúma, whilst one village was transferred from Bhúma to Niloha.

There are two civil courts in the district, that of the munsif of Muzaffarnagar and that of the Munsif of Shámli. In 1860-61 there were seven magisterial courts in the district, eight revenue courts, and four covenanted civilians. The staff in 1875 comprised three covenanted civilians—the magistrate-collector, joint magistrate, and assistant magistrate; one native deputy collector, four tahsildárs with judicial powers, and seven honorary magistrates—Sayyid Husain Ali Khán, Lála Ude Rám, Abid Husain, Mahdi Husain, Rái Ganeshi Lál, Rái Umar Singh, and Sábit Ali. Besides the executive staff there is a district superintendent of police, a civil surgeon, and a deputy inspector of schools.

The district of Muzaffarnagar may be divided into four tracts. On the extreme east, the parganah of Gordhanpur, situated entirely in the valley of the Ganges, and to the south of it, in succession, the valley portions of Bhukarheri and Bhúma Sambalhera form the first tract. Next comes the tract between the Ganges and the west

Kálinadi watered by the Ganges canal ; then the Káli-Hindan duáb ; and lastly, the tract to the west of the Hindan bordering upon the Jumna and partly watered by the eastern Jumna canal. Gordhanpur lies in the delta formed by

North-east,

the confluence of the Soláni with the Ganges. All along the Soláni river from north to south the parganah consists of an almost continuous swamp fed by the overflow from the river and by percolation from the Ganges canal. The Soláni formerly flowed in a sufficiently deep bed through the middle of the parganah, but of late years it has formed for itself a channel just below the upland through the line of jhíls which mark the old bed of the Ganges. The change of course in the river and the increasing percolation from the canal have combined to ruin many villages, and in a great portion of the parganah the settlement concluded in 1862 has broken down, and thirty-nine villages of Gordhanpur and six estates of Pír Ohhapúr situated to the east of the Soláni, and which it is proposed to incorporate with the former parganah, are leased annually to the zamíndárs. Considerable efforts have been made by the Irrigation Department, both by ombankments and by drainage lines, to prevent flooding from the river and to drain the marsh, but the completion of the scheme is still distant, and as yet but little benefit has resulted. Between the marsh affected villages to the west of the parganah and the Ganges, the land is on a higher level, but although water is close to the surface, irrigation is not general and is but little required. In the immediate vicinity of the Ganges the great river and its branches run riot through the land and make cultivation a very hazardous speculation. Communication, too, is restricted during the rains, and even during the winter months the ferries on the Soláni are rendered difficult by sudden freshes, due partly to the rain fall and partly to the escape-water from the Ganges canal, and the roads into the tract are either mere cart-tracks or are much neglected. These considerations have led to a recommendation that Gordhanpur should be attached to the Rúrki tahsíl of the Saháranpur district and should be administered by the subdivisional officer stationed at Rúrki.

South-east,

To the south of Gordhanpur, the Ganges, although it has of late years receded considerably, comes within a few miles of the uplands, but again flows in a south-westerly direction, leaving a gradually increasing extent of valley land in parganahs Bhukarhori and Bhúma Sambalhera.¹ The old high bank of the Ganges marks the division throughout between the uplands and the *khádir* or valley. The *khádir* as seen from this ridge presents a broad, far-stretching tract of level covered with patches of cultivation, but generally bearing nothing more than the coarse grasses known as *panni*, *patel*, and *sarkora*, with occasional clumps of tamarisk. In the cold season it is clothed in brown, trees are scarce and the grass has then begun to wither, and here and there rivulets occur, and beyond all is seen the stream

¹ See these parganahs hereafter for an account of the *khádir*.

of the Ganges itself. In this tract, too, percolation from the canal is doing its work, and village after village has been injured by increasing marsh. Nor is the injury at an end, for year by year, fresh fields become useless and the cultivated area dwindles. Canal irrigation has made the upland so much more attractive to cultivators that it is now difficult to keep the inhabitants of the valley in the tract that they have occupied from time immemorial. The population is decreasing, and wild animals, especially pig and hog-deer, are becoming more numerous every year, so that between the deterioration of the soil, the superior attractions held out elsewhere to tenants and the increasing difficulty of cultivation, the future of this tract is not promising. The *khádír*, however, will always be a useful grazing ground, and it may perhaps be made to yield a larger supply of wood for the ploughs and sugar-mills of the prosperous upland than it does at present. The land-revenue in a great portion of this tract has fallen off very seriously as the subjoined statement shows, and it is hardly to be hoped that still further loss will be averted:—

Parganah.	Estates.	Revenue.			Parganah.	Estates.	Revenue.		
		1841.	1862-63.	1873-74.			1841.	1862-63.	1873-74.
Gordhanpur, ...	39	9,399	8,887	4,694	Pár Chhapár,	6	604	80	250
Bhúma Sambal-hera.	12	8,219	7,975	5,030	Bhukarheri,	7	3,451	3,717	2,858

In a little more than thirty years, therefore, the revenue of 64 estates has decreased by Rs. 8,841, or 41 per cent., and it is to be feared that the productiveness of the tract has fallen off in a still greater ratio.

Thesecond tract or the Káli-Ganges dnáb is watered by the Ganges canal, which runs through the east of the district with a course almost due south to Belra, and thence it flows in a course somewhat south-west into the Meerut district. It is bounded on the east by the low valley of the Ganges rising, from which to the uplands the line of soverance is marked by a series of ravines worn by the surface drainage and of little value even for pasturage. Beyond these ravines the uplands are reached. These have a general slope from east to west, and close to the eastern boundary from west to east with a more considerable slope from north to south, so that from within half a mile of the northern boundary of the district to within a short distance beyond the southern boundary no less than five falls are required on the Ganges canal to moderate the otherwise excessive slope of the canal channel. To the south-east between the canal and the lowlands the head-waters of the east Káli nadi or Nágan, as it is locally called, collect together, but do not assume a defined shape as a river until they

enter the Meerut district. To the west of the canal, the descent into the valley of the west Káli nadi is in the northern parganahs generally more gradual, but in the southern parganah of Khátauli, a belt of broken land divides in most villages the generally level upland from the valley of the river. Here, too, percolation from the canal has destroyed much fertile land.

The chief physical feature of the entire tract is the presence of sand which occurs in belts of hillocks with a direction from north to south, and occasional transverse ridges in the north and in the form of a level plain in the south. This plain commences to the east of the sandy ridge in the Muzaffarnagar parganah and extends in a south-easterly direction through Jauli and Bhúma into the Meerut district. Mr. Cadell writes :—"This extensive sand plain gives to the south-eastern parganah an enormous excess of bad land, and in Bhúma Sambalhera less than one-third of the cultivated area is naturally good land; but the land is for the most part level, and there is in this way greater hope of improvement than in the northern parganah, Púr Ohhapár, and in Muzaffarnagar, which are both traversed by lines of sandhills, not merely by level belts of sand. With the exception of Bhúma Sambalhera the natural fertility of the tract steadily improves towards the south. In Púr Ohhapár little more than one-third of the cultivated area is natural loam or clay. In Bhukarhori and Muzaffarnagar, the east and west central parganahs, the proportion is increased to about one-half; in Jánsath it rises to sixty per cent.; and in the south-western parganah, Khátauli, more than two-thirds of the parganah are naturally good loam. Irrigation and careful cultivation by an increasing population are gradually changing the character of much of the sandy land, but a tract in which even now only a comparatively small percentage of the cultivated area is entered as loam and clay, and in which before the opening of the canal irrigation was for the most part difficult, must thirty years ago have greatly deserved the description of it given by Mr. Thornton as dry and sandy."

The central tract between the Hindan and the Káli, comprising an area of over a lakh and a quarter of acres, is at present totally devoid of canal irrigation, but irrigation from wells is fairly sufficient except to the north, and parganah Chartháwal alone required much consideration during the drought of 1868-69. The land is high throughout the centre of this tract and is naturally fertile, but the water-level is, as a rule, at a great depth. The projected branch from the Ganges canal *viâ* Deoband was intended to irrigate this portion of the district. The eastern and western portions of the central highland slope down to the rivers on either side, and is there marked by much broken ground, and a tendency, especially in the south, to an increase of ravines which cut into the good land above. Through a portion of parganah Shikárpur in this tract we

have the same phenomena of sandhills running from north to south, and adding to the natural difficulties due to the absence of the means of artificial irrigation. There are few tanks or jhils throughout this Duáb, but, as stated above, the irrigation from wells is considerable. The lowland along the Hindan is marked by steeper banks, is larger in area, broader and more fertile than that of the west Káli nadi. Along the latter river several estates have been injured by the appearance of *reh* due to over-saturation and by the overflow of the river itself in time of flood. Injury from this latter source has, no doubt, been enhanced by the use of the Káli as a canal escape from Khátauli on the opposite side, but the connection between the increased volume of water in the river and the prevalence of *reh* has not as yet been so sufficiently established as to warrant our debiting the loss occasioned by its appearance to the action of the canal. On the whole, then, the soil in the uplands is good, and in many places *kuchcha* wells can be sunk, but, as a rule, they are expensive and in the sandier tracts almost impracticable.

The western tract between the Hindan and the Jumna naturally subdivides into three parts: the portion generally watered by the eastern Jumna canal between the Krishni on the east and the Kútha on the west, and the portions lying on either side of those rivers. Taking first the tract between the Hindan and the Krishni, it consists of a somewhat elevated plateau partly sloping on either side towards two rivers, but sufficiently low to admit of canal-irrigation from a branch of the eastern Jumna canal. To the north the soil is poor and irrigation is scanty, but the one increases in fertility and the other in quantity further south. The western portion of Ohartháwal is watered from the canal, but the adjoining parganah of Thána Bhawan possesses little means of irrigation. Further south in eastern Shámli and western Baghra the northern villages partake of the character of these in the extreme north of the district, whilst the southern villages improve rapidly in fertility. In the extreme south the villages of eastern Kúndhla, and more especially western Budhána, though high, possess a naturally fertile soil. The ravines towards the Hindan are less marked than those on the left bank of that river. The eastern Jumna canal runs through the western portions of parganahs Thána Bhawan, Shámli, and Kúndhla, and sends out numerous branches. The country is, as a rule, low, and in the rains is often inundated towards Kúndhla on the south and Jhanjhána on the north-west. The soil is fertile on both sides of the canal and the cultivation is close and high.

Parganahs Jhanjhána, Kairána, and Bidauli lie to the west of the canal.

In the north-west of Thána Bhawan, the north of Bidauli, Jhanjhána and in nearly the whole of Bidauli, population is scanty and cultivation is backward. The soil, though naturally good,

is covered over with thick *dhák* jungle, interspersed with oases of light sandy soil, high above the ordinary level of the tract. Towards the south and east in Jhanjhāna population increases, cultivation improves, and the jungle gradually disappears, but in the south-west of this parganah and the south of the neighbouring parganah of Bidauli there is a very small amount of cultivation, and scarcely a single inhabited village deserving the name, and this description applies equally to the villages of Kairāna lying within the delta of the Kātha and the Jumna. The remaining villages of Kairāna are good and up to the average of the district, and a few of them lie within the fertile *khālār* of the Jumna. To the extreme north-west, Bidauli has suffered much from the encroachments of the Jumna, which during the years 1841-61 separated six villages from this district and added them to Karnāl in the Panjab. The process of diluvion goes on year by year, and much of the lands of other villages has since been cut away. Independent of the natural poverty of the soil, Bidauli suffers much from the efflorescence of *reh* caused by the overflow of the Jumna. This renders large tracts unculturable, and in a week or ten days will often entirely kill a flourishing crop. Altogether the extreme north-west about Bidauli and the extreme north-east around Gordhanpur may be considered as the worst and most difficult tracts in the district. The entire area of the southern and central tracts, with the exception of Bhūma, is fertile and highly cultivated, while the tracts to the north possess fewer natural advantages.

The following table of ascertained heights above the level of the sea in this district is extracted from the table of heights published by the Great Trigonometrical Survey. (See further under Begharazpur, Kaliāna and Dehra in the alphabetical arrangement.)

On the Meerut and Sahāranpur road (Sahāranpur, 26 miles, Muzaffarnagar 12 miles):—

	Feet.		Feet.
Top of milestone,	...	Begharazpur ground-level,	...
Ditto 9th milestone from Muzaffarnagar.	829.14	Top of 7th milestone on Meerut road,	815.94
Ditto 8th ditto ditto,	825.32	Ditto 8th ditto ditto,	795.48
Ditto 7th ditto ditto,	...	Ditto 9th ditto ditto,	791.59
Ditto 6th ditto ditto,	824.11	Ditto syphon bridge, ditto,	792.09
Ditto 5th ditto ditto,	822.35	Ditto 10th milestone on Meerut road,	792.05
Ditto 5th ditto ditto,	822.07	Parapet of Kirni <i>rajbaha</i> bridge,	791.25
Ditto stone in Rāmpur village,	818.78	Top of 11th milestone on Meerut road,	791.72
Ditto 3rd milestone from Muzaffarnagar.	796.87	Ditto 12th ditto ditto,	785.35
Ditto 2nd ditto ditto,	804.47	Khatauli bridge,	785.66
Ditto 1st ditto ditto,	...	Plinth of canal milestone, No 62,	785.82
Muzaffarnagar bench-mark,	...	Top of 13th milestone on Meerut road,	787.05
Top of 1st milestone on Meerut road	790.01	Ditto 14th ditto ditto,	780.05
Ditto 2nd ditto ditto,	805.86	Ditto 15th ditto ditto,	...
Ditto 3rd ditto ditto,	801.83	Ditto canal syphon bridge,	777.36
Parapet of canal syphon bridge,	801.97	Ditto 17th milestone on Meerut road,	775.72
Top of 4th milestone on Meerut road,	801.14	Parapet of canal bridge 15½ miles from Meerut,	775.28
Ditto 5th ditto ditto,	797.95		768.84
Top of 6th milestone on Meerut road,	793.36		775.34
	783.33		

The difference in area of the district at different periods has already been cursorily noticed, but needs some further explanation.

Difference in area. In 1840 the district was assessed under Regulation IX. of 1833, and then showed a total area amounting to 691,706 acres. In 1842 five parganahs were received from Meerut and one from Saháranpur, which raised the area to 1,061,218 acres. Subsequently some slight changes occurred, due in a great measure to diluvion and exchange with the adjoining districts, so that in 1848 and the following years the distribution of the area in acres may be tabulated as follows:—

Class of land.		Census of 1848.	Census of 1853.	Settlement, 1860-63	Census of 1865.	Census of 1872.
Assessed area	Cultivated area, ...	628,863	670,468	650,173	650,173	654,048
	Culturable, ...	219,019	153,173	197,931	197,931	201,343
	Revenue-free, ...	43,099	76,287	32,789	53,376	57,886
	Barren waste, ...	162,660	153,713	152,575	152,685	148,262
	Total, ...	1,053,641	1,053,641	1,033,468	1,054,065	1,061,989

From these returns it would appear that cultivation has increased in the quarter of a century, between 1848 and 1872, by 25,185 acres, though if the figures of 1853 be taken the cultivated area will show a decrease of 16,420 acres. The increased area under cultivation in 1853 was due to the breaking up of new land, and gave a net increase of 41,605 acres over 1848, or 6·6 per cent. on the previous cultivation and 4 per cent. on the total area. Taking the figures as tolerably correct, the only explanation that can be given is that much land was thrown out of cultivation during the famine year 1860-61, and much good land has been taken up for roads and canals since 1853. It is also to be noted that the figures for the culturable area in that year are so low as to lead one to suppose that land fit for but not actually under the plough was included in the cultivated area in 1853.

At the old settlement Mr. Thornton adopted the following classification of soils:—*Mlsan* or manured land; *rausli* or loam; *dákar* or clay, and *bhuír* or sand, with occasionally *danda* or high, uneven and poor sand, whilst Sir H. M. Elliot, distrusting the details of soils, satisfied himself with the distinction of wet and dry land. More recently, in 1863, Mr. Thornton's system was followed, while at the partial revision now brought to an end the soils recorded were *bárah* or garden-land, first *rausli* or loam, second *rausli* or sandy-loam, and *bhuír* or sand. Besides these broad divisions special terms are often used for each of these great classes under

particular circumstances : thus *ghár* is the term applied to the soil of the sandy ridges ; *choil* to the swamps of the Gordhanpur parganah ; *chdhi* to irrigated land ; and *mukhta chdhi* to land usually irrigated, but thrown out of irrigation during the year. Manured land and loam grow almost every kind of crop, but sand is seldom fit for anything except the poorer classes of crops, such as the millets in the rains, and only under favourable circumstances wheat and barley in the cold weather. Cane, cotton, tobacco and vegetables are only grown in manured land and the loamy soils yield rice and gram.

The injurious saline efflorescence known as *reh* (impure carbonate of soda)

Reh.

occurs in considerable quantities along the Jumna in Bidauli, most abundantly along the course of the east-

ern Jumna canal and occasionally along the west Káli nadi and the Ganges canal. Taking the district as a whole, *reh* occurs both in the uplands and in the river valleys, generally in loam and never in sand. It shows itself both in level plains and on the banks of rivers wherever there would appear to be an excess of moisture, but owing to the absence of *usar* plains it is nowhere so prevalent as in the lower districts of the Doab. Whenever the efflorescence becomes general over a field its productiveness ceases. The prevalence of *reh* along the line of the eastern Jumna canal is apparently due to wholesale over-irrigation and the consequent over-saturation of the soil, so that the cultivated area in many estates which were once the finest in the district has fallen off rather than increased. Here, too, occurs one of the clearest cases of reclamation of land once unculturable on account of *reh*. Several of the fields around Shámli have again come under the plough since the closure of the channel which fed the mills and the decrease of irrigation in other parts of the same estate. On the other hand, *reh* has increased very much of late years all through this tract and often appears in patches, and sometimes attacks the higher fields whilst the lower ones are unaffected. As far as is known *reh* comes up from below ; constant rain washes the *reh* in, whilst a bright sun causes the moisture which held the *reh* in solution to evaporate and leave the white efflorescence on the surface, and hence it is not nearly so apparent in wet weather. *Reh* destroys the water of wells in its vicinity as well for drinking as for irrigation purposes, and when it once attacks a tract its effects are soon seen on the groves. In Shámli and Thána Bhawan trees, especially mango trees, begin to wither long before the crops are attacked. Young trees begin to droop at the tops, and as *reh* increases the mango disappears, the *sissu* soon follows, and then grass ceases to grow, and what was twenty years previously a grove now becomes unculturable land covered with a white efflorescence. The rise in the water-level of a low-lying tract by percolation from the canal and over-irrigation must have much to say to this state of affairs, for once this low-lying tract is left there is little or no *reh*, and in naturally dry

lowlands there is none. To remedy this evil will require more control over the distribution of water than is had at present.

From inquiries made as to the methods adopted by the farmers in Utah in America in reclaiming lands lying near the Great Salt Lake, it would appear that experiments there have been very successful. One farmer advocates levelling the lands so that water can stand upon them, and then leaching them by continued ploughings so as to form terraces. When water is near the surface, a few inches of sand should be applied to the newly-leached land to prevent incrustation and to break the contact with the soil, and so facilitate the growth of the tender plant. Castor-beans, cotton, melons and lucerne were then sown in the order mentioned and were productive. Another recommends liberal irrigation when the mineral rises to the top in a frothy scum and can be drawn off, and then vegetable manure should be applied. Plentiful water with drains to run it off and the use of silt ploughed in with manure have been found successful. Another farmer writes :—
 “I have experimented on and brought into successful cultivation, in the following manner, some land so strongly impregnated with mineral that nothing grew upon it, and so situated that water could not be advantageously applied to wash the mineral out. Put on a good coat of warm manure and plough very deep in the fall of the year, and in the spring, before sowing, plough again, but not quite so deep as in the fall. The seed should be sown immediately after ploughing. For all kinds of roots furrow out with a small plough or cultivator, leaving sufficient room between the furrows to plough and cultivate the soil. Sow the seed in the drills, haul on and cover with fine sandy loam. Do not irrigate till the plants are of a good size and the weather hot. A few inches of sand, a coating of chaff or fine manure, over the whole surface after planting, prevents crushing and becomes mixed with and improves the soil for future crops. The following kinds of fruit can be successfully raised on such land, *viz.*, apples, pears, plums, currants, and gooseberries. Plough the ground deep; and for all kinds of trees dig the hole two and a half feet square by two feet deep, put in the bottom of the hole six inches of good manure, then six inches of mixed sand and gravel, set the roots of the tree in good loam not too far from the surface. A tree thus planted will grow thriftily. I have an orchard planted as above bearing good fruit four years after planting. The mineral does not appear to injure the tree after it gets well started, and as its size and shade increase, so the soil surrounding it improves. A good coating of rough manure, chaff, or partially rotted straw over the whole surface the first year will keep the ground moist and prevent crusting. Where water is plentiful, and the land so situated that it can be applied, the saline substances can easily be washed out by having the necessary drainage, and the land be made productive either for grass, roots or grain.”

In Southern India *kalar* land is successfully reclaimed by using the *dk* or *maddr* (*Calatropis gigantea*) as manure. The land is flooded, ploughed up and thickly covered over with the leaves and stalks of the shrub, which are tram-

Reclamation in Madras. *pled in* : after decomposition a second course of ploughing and flooding thoroughly reforms the land for the

season. The process must be repeated two or more seasons to render the reclamation permanent, but rice can be grown even after the first season's preparation.

The following statement shows the soils of the cultivated area and the distribution of the total area as ascertained during the measurement operations preceding the revision of 1861-62, and will show at once the peculiarities of each parganah:—

Statement showing the soils of the cultivated area and the distribution of the entire area of the district in 1860-61.

Farganah.	Cultivated area.					Culturable.		Barren.	Revenue-free.	Total area.
	<i>Mitan.</i>	<i>Rausli.</i>	<i>Dakar.</i>	<i>Bhar.</i>	Total.	Old waste.	Present fallow.			
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Shámli, ...	10,639	29,494	4,137	1,185	45,455	5,797	1,402	11,191	922	64,707
Kándhla, ...	11,008	34,343	3,971	1,012	50,329	5,391	636	9,669	948	66,073
Thána Bha- wan.	7,003	16,423	3,948	318	27,692	5,127	6,619	9,242	6,389	55,069
Budhána, ...	9,718	23,840	662	1,067	35,282	5,067	1,454	8,423	50	50,276
Shikárpur,	13,478	30,794	1,044	3,171	48,487	4,707	1,210	8,477	1,128	64,015
Baghra, ...	9,666	28,561	1,973	1,838	42,038	4,875	2,239	6,365	589	56,054
Jhanjhána,	4,302	16,337	2,581	1,791	25,011	14,066	4,920	9,040	4,399	57,436
Charthá- wal.	10,330	26,949	2,821	4,240	44,349	5,213	2,284	6,659	589	59,044
Kaiána, ...	3,658	25,190	2,775	2,019	33,642	14,782	1,724	7,801	1,090	57,545
Gordhanpur,	3,215	9,309	3,433	101	16,118	14,649	2,912	7,623	...	41,302
Bidauli, ..	1,947	14,413	2,449	1,735	20,544	14,987	5,559	11,101	3,033	55,224
Muzaffarna- gar.	4,804	29,320	1,541	6,252	41,917	3,334	4,994	7,844	2,932	61,021
Bhukarheri,	10,257	29,302	1,426	6,879	47,864	15,646	3,320	15,277	2,088	84,204
Púr Chha- pár.	10,543	26,024	717	3,819	41,103	4,896	1,758	9,742	1,210	58,699
Jánsath, ...	7,523	26,985	351	13,904	48,763	3,178	2,659	6,239	1,132	61,971
Bhúma, ...	6,304	18,963	2,454	13,494	41,215	19,721	6,393	12,886	80	80,185
Khátauli, ...	8,641	24,737	856	6,130	40,364	4,844	1,623	6,548	6,301	59,083
Total, ...	133,026	411,044	37,139	68,954	650,173	146,270	51,661	162,575	32,789	1,033,468

To complete the soil returns I give the figures of the revision of settlement in 1871-72 for the six parganahs of the Ganges canal tract.

Parganah.	Cultivated area.							Culturable.	Revenue-free.	Barren.	Total.
	Bárah.	Rausli 1st.	Rausli 2nd.	Bhár.	Total.	Dry.	Irrigat-ed.				
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Púr Chhapár											
Uplands, ...	19	14,197	13,209	13,575	41,000	20,989	20,011	2,413	2,595	6,574	52,582
Lowlands, ...	1	263	363	522	1,149	1,185	14	1,168	...	1,848	4,165
Total, ...	20	14,460	13,572	14,097	42,149	22,174	20,025	3,581	2,595	8,422	56,747
Muzaffar-nagar.	91	24,026	10,553	11,766	46,436	25,774	20,662	5,550	10,276	7,292	59,554
Bhukarheri.											
Uplands, ...	47	19,723	13,567	12,159	45,496	21,579	23,917	3,395	2,084	8,768	59,743
Lowlands, ...	3	348	200	224	775	775	...	2,570	...	1,489	4,824
Total, ...	50	20,071	13,767	12,383	46,271	22,354	23,917	5,965	2,084	10,257	64,577
Jauli Ján-sath.	321	28,833	7,448	13,717	50,319	26,074	24,245	4,575	1,135	5,934	61,963
Khátauli, ...	62	28,554	7,251	6,356	42,223	17,939	24,284	4,786	8,876	6,408	62,293
Bhúma Sam-balbera.											
Uplands, ...	112	10,637	8,029	17,514	36,292	26,795	9,497	1,659	52	8,192	46,195
Lowlands, ...	...	222	43	42	307	305	2	1,225	...	1,196	2,723
Total, ...	112	10,859	8,072	17,556	36,599	27,100	9,499	2,884	52	9,388	48,923
Grand total,	656	126,803	60,663	75,875	263,997	141,365	122,632	27,341	25,018	47,701	364,057

The Ganges on the east and the Jumna on the west form the boundaries of the district and are the only navigable rivers within or adjoining it. Both have a parallel course from north to south. The Ganges recedes yearly more and more towards the east, cutting away the villages from the Bijnaur side and adding them to this district: thus, between 1842 and 1862 the two parganahs of Bhukarheri and Bhúma received, in this way, thirty-one estates from Bijnaur. The former high bank of the Ganges now constitutes the right bank of the Soláni, and there is reason to believe that the recession has taken place since 1398 A.D. Tímúr, in his Memoirs,¹ mentions his raid into the Duáb. After leaving Meerut he marched by Mansura "to Pirozpur," which must either be the Pirozpur in parganah Hastinápur of the Meerut district, or the Pirozpur seventeen miles northward, near Shukartár, in parganah Bhukarheri of this district. He came thence by the bank of the Ganges, where he encamped, and afterwards marched for fifteen kos up the river to Tughlikpur, which from his description must have been close upon the river. Now Tughlikpur gave its name to a parganah in the reign of Akbar subsequently known as Núrnagar from Núrnahán's village, and again as Gordhanpur. These two villages can therefore be no other than the Tughlikpur and Núrnagar, both situated on the high bank of the Ganges, to the right of the Soláni in parganah Púr Chhapár of this district. The greater portion of the parganah of Gordhanpur would thus seem to have formerly lain on the eastern

¹Dowson's Elliot, III, 451.

side of the Ganges, and the process by which it has been separated from the Bijnaur district is in full force at the present day. Similar loss by diluvion is caused by the Jumna on the west. There also the tendency of the river is to move towards the east. Between 1841 and 1861, the villages of Nasirpur, Nalwi, Dubári, Chandipur, Rasulpur, and Nagla Nega have been cut off from this side and added to the western bank of the river. Towards the Jumna 25 villages are recorded as liable to fluvial action; 12 in parganah Bidauli, 8 in Kairána, and 5 in Kándhla. On the Ganges, 7 villages in parganah Gordhanpur, 18 in Bhúma, and 11 in Bhukarheri are similarly affected. The rule observed in settling riparian disputes is that locally termed *machaha stá*, by which the deepest branch of the river is always considered the boundary between the lands on either bank, whatever course the current may take; but land detached as an island apparently remains, as a general rule, in the possession of the original proprietors. Some remarks on the volume of the Ganges at Shukartár in this district have been made in a former volume (II., 147), and the character of its *khádír* has also been noticed. In the Jumna *khádír* the only good villages are those lying to the south of the Kairána parganah. The navigation by both rivers is confined to the rafting of timber and a few empty boats from the Dún.

Next in importance to the great rivers is the Hindan, which also runs from north to south through this district. It is crossed by the roads from Muzaffarnagar to Thána Bhawan, Shámli, and Budhána. To the north the banks are high and steep, and towards the south they are sloping and the lowlands are broader. The Hindan rises to the north of the Saháranpur district and receives the west Káli nadi on its left bank near Rianli Nagla in parganah Kándhla, to the south of this district. The Hindan is here fordable everywhere except after heavy rain, but is used neither for irrigation nor navigation. Floods in the Hindan cause a little damage to the lowlying lands on its banks, but they never rise sufficiently to cause any danger to the uplands. The only deterioration visible is that caused by the tendency of the drainage lines to cut into the bank separating the uplands from the *khádír*, but this is common to the Hindan with the other minor streams of the district. The west Káli nadi also rises in the Saháranpur district, and has a course somewhat south-west as far as Jasui; thence it turns to the south and again turns south-west to its junction with the Hindan. It runs between the Hindan and the Ganges canal. To the west of the Hindan is the Krishni, which flows in an almost parallel course to the former river. To the north the banks are high and steep, and but little damage is caused by it in season of flood. Further west the sluggish Kátha creeps along through Jhanjhána and Kairána, and joins the Jumna on the left bank near Kámra in parganah Kairána.

The East Káli Nadi, or as it is called in this district the Nágan, rises to the eastward of the sixtieth mile of the Ganges canal and between the canal and the great sand-ridge near Saráí or Rasúlpur in the north-east corner of parganah Khátauli in this district. From the north and east the level of parganah Khátauli gradually falls away into the depression which forms the source of the Káli, and so low is this that it admits of tanks or large ponds being excavated which become dry only in the hot weather. This line of drainage which ultimately forms the main arterial line of drainage for the whole of the eastern Duáb as far south as Kanauj in the Farukhabad district is immediately below these tanks an ill-defined nála running through grassy ill-cultivated fields. It gradually, however, expands and, in the latitude of Bulandshahr, becomes a perennial stream running through a valley marked by high banks. Some injury has been done, of late years, by the use of the imperfect channel as a canal escape for the superfluous water from Palri, and by pouring into a tributary of the Nágan the waters of a second escape. Thus, in two instances, a mere local drainage line, barely sufficient to carry off the rainfall in ordinary years, has been turned into a regular stream liable to rise and suddenly destroy the crops grown on its banks. The works recently undertaken by the Irrigation Department will, however, probably remove the swamps already created, and by clearing the channel of the sluggish Nágan prevent their recurrence. The rivers throughout the district, as a rule, run very far below the level of the upland, so that irrigation from them is impracticable at any time.

The general history of the Ganges canal has been given in the introduction, and it is only necessary here to notice its local character. The canal enters the district close to the old high bank of the Ganges in the Pár Ohhapár parganah, and leaves it within some six miles of the west Káli nadi in the Khátauli parganah. During its course through the southern portion of the district it crosses the basin within which the head-waters of the east Káli collect. The character of the country is here very different from that through which the canal runs from its head to Asafnagar in the Saháranpur district. Here there is an almost equable slope throughout, and no great natural obstacles to be overcome, whilst further north torrents and valleys had both to be crossed by means which taxed severely the skill, energy and labour of the engineers. The first design for the portion of the works lying within this district embraced a canal with a slope of bed amounting to eighteen inches per mile, the superfluous declivity being disposed of by means of four descents of eight feet each, in masonry falls at Budhpur (Mahmúdpur), Belra, Jauli and Ohitaura, and a branch canal to be given off at Jauli for the irrigation of the country as far as Fatehgarh.¹ On a close examination

¹ Cautley's Ganges Canal, I, 191.

of the southern parganahs of the Sahāranpur district and the parganahs of this district it was found that there were occasional beds of sand and sand in hillocks exposed on the surface, but that below the surface of even the best soil, sand was found at a small depth. This discovery necessitated a reconstruction of the original design and a lowering of the slope to fifteen inches a mile. To carry off the excess of slope the falls were increased to ten, and were designed to overcome a total declivity of 74 feet between Asafnagar and Sumera, whilst the works at these places were enlarged and strengthened in many ways.

During the first portion of its course in this district, as far as Belra, the Description of the canal has a direction almost due south. Throughout work. this tract the surface is marked by undulating hillocks of sands which run in belts from north to south or throw off lateral spurs which gradually intermingle with the surrounding plains. Between Jamālpur and Belra the canal passes two of these ridges: one at Bahlolpur and the other near Belra. The slope between Rārki and Belra is estimated at 46 feet, or 2·3 feet per mile, and on this section within this district there are bridges at Dhamāt, Tughlikpur and Belra, and falls and works at Belra with a waterway of 200 feet over the sill, and a navigable channel which leaves the main line of canal at a distance of 3,500 feet above the falls on the left, runs parallel at a distance of 1,000 feet, and rejoins the main canal again 4,000 feet below the falls. Just beyond Belra the canal bends slightly towards the south-west, approaching the more central portion of the highland forming the water-shed between the west Kālī nadi and the head-waters of the east Kālī nadi, and through them the water-shed between the Jumna and the Ganges. The distance between the two Kālī rivers is here about eight miles, and the canal is almost four miles from either river. The features of the country through this line are very much the same as in the first tract. To the west of the canal, ridges of sandy hillocks appear at intervals, and occasionally spread over the plain. The excavations, therefore, both for the channel of the canal and the foundations of the works along it were sandy throughout. Clay for brick-making purposes was scarce, and much delay would have ensued were it not that the ruins of Chitaura and other old deserted towns supplied a large quantity. The longitudinal slope of the country for the 20 miles south of Belra is 32 feet, or 1·6 foot per mile; the transverse slope is from west to east, but the line of canal runs high and is well situated with regard to the water-line.

At Jauli, on the fiftieth mile, a branch is drawn off, at first intended to water the country between the east Kālī nadi and the Ganges as far as Farnkhabad, but eventually stopping short at Anūpsahr. This branch runs at such a low level that it is of very little use to the irrigation of this district, and only gives water to a few villages in the extreme south-eastern corner. The principal works on the section of the canal

between Belra and Antwára are the bridges at Bhupa, Janli, Dhakheri, Jánsath, and Sarái : falls and works at Janli and Chitaura similar to those described above at Belra and the head of the Anúpshahr branch of the canal close to Janli. The works at the last place consist of "a bridge of nine bays, of twenty feet each, over the main canal, and a bridge of four bays, of twenty feet each, over the head of the branch, connected by a line of curved revetment, resting upon a redan-shaped platform, which projects its acute angle towards the point of separation of the main stream and the branch ; the sides of this redan consist of flights of steps, or gháts, which are approached from the higher levels by stairs centrically placed on the curved revetment ; both these bridges are fitted with shutters and planks and the necessary appliances for regulating the water." From Mahmúdpur, on the 60th mile, the canal continues in the same direction, bending after it leaves the district a few degrees nearer south. Immediately opposite Khátauli in the 62nd mile a cut connected with the west Káli nadi has been made to form an escape for superfluous water. This cut is sixty feet in width at its head, divided into ten openings of six feet each. The distance from the canal to the river is here $3\frac{3}{4}$ miles, and the difference of level from the bed of the canal to that of the river is 29.21 feet. The main western distributary channel is carried across this escape cut by an aqueduct, connected with a bridge of cross-communication, to the floor of which a masonry descent is attached intended to overcome an excess declivity of eight feet. There are bridges at Khátauli and Satheri with three arches and a water-way of 165 feet.

The eastern Jumna canal was opened in 1830. The works on it were designed by Colonel Robert Smith of the Bengal Engineers, and were completed in five years from their commencement.¹ It enters this district at the village of Aurangabad, to the north of parganah Thána Bhawan, and flows southwards through parganahs Shámli and Kándhla into the Meerut district. There are bridges at Mánikpur, Khera Gadhái, Khail Shikárpur, and Tharuwa in parganah Thána Bhawan : at Jandheri, Bhainswál, Mandet, Shámli, and Liloan in parganah Shámli ; and at Domakheri, Kandraulí (2), Fatehpur, Kándhla (2), Nála and Ailam in parganah Kándhla. The bends of the old course of the canal at different points which were left untouched by the remodelling operations contain much swamp which recent operations are designed to drain. These swamps are especially noticeable in the neighbourhood of Bhainswál, Saláwar, Shámli, and Kándhla, and, indeed, in the whole tract of country lying along the right bank of the canal. During the cold weather of 1875 many important works connected with the drainage of the country irrigated by the eastern Jumna canal were taken in hand, and some of them are now arriving fast near completion.

¹ For further information regarding this canal see Gazetteer, II., 5, and hereafter under "Irrigation."

Navigation on the eastern Jumna canal from Yárpur in pargana Thána Bhawan to Sarnauli in pargana Loni of the Meerut

Navigation.

district is confined to the carriage of materials for departmental purposes by means of three or four flat-bottomed boats belonging to Government. There are also two grain-boats attached to the Yárpur corn-mills, but they never appear to be devoted to the purpose for which they were originally intended. The navigation on the Ganges canal is very considerable,¹ and the principal commercial depôt here is Khátauli. There is only one water-mill on the Jumna canal with six sets of stones. The rates charged for grinding corn are from two annas to four annas per maund. There are two mills with three pairs of stones each on the Ganges canal at Chitaura, where the rates are lower: one anna to one and a half anna for the lower class of grains and two annas per maund for wheat. There are also mills with six pairs of stones at Muham-madpur and Jauli, but the latter are out of order owing to the defective state of the lock and channel. All these mills are leased out to contractors, and I have failed to obtain any information as to the amount of work done by them, or as to the estimation in which they are held in popular account. All through the Ganges canal line, not one-tenth of the water-power available is made use of, though some attempts have recently been made by issuing orders for improvements in the mills and their arrangements to render them more convenient and acceptable to the local grain merchants. In connection with recent experiments, the Meerut canal authorities intend to erect a sugar-cane crushing mill at Chitaura in this district, to be worked by the water-power of the falls there.

The whole line of the Soláni in this district is little else than a line of jhils and marshes, and the delta between its confluence with the Ganges is occupied by the great Jogawála jhil, which has an area of three and a half miles by two miles, or about 11,000 bighas. Altogether, the marshes about here cover upwards of 20,000 bighas. Another line of marshes running parallel to the Ganges from a point about five miles south of the mouth of the Soláni on into the Meerut district, marks the old bed of the Ganges, the interval between which and the swamps is occupied by a maze of water-courses. In Púr, the pargana immediately adjoining Gordhanpur, the marsh lands along the Soláni cover about 3,000 bighas. Throughout the remainder of the district there are few jhils worthy of notice, but the Aldi jhil in Kándhla, the Tisang and Ján-sath jhils in pargana Ján-sath, the Badhiwála jhil in Muzaffarnagar, the Ohhapár tanks, the Bhúma tank in Bhúma and the Toda jhil in Bidauli may be mentioned.

There are ferries across the Ganges leading to Bijnaur at Aki Kheri alias Matwáli, also called Raul ghát, due east of Muzaffarnagar, (21 miles from the civil station), and at Dharnpur (32 miles from Muzaffarnagar) a few miles south, opposite Dáranagar in the Bijnaur

Ferries.

¹ See Gazetteer, II. 31.

district and on the Jumna at Mawi in parganah Kairāna (34 miles), from the civil station leading to Pānīpat and at Andhera (44 miles), from the civil station in parganah Bidauli, leading to Nāi Nagla in Karnāl. At all these ferries bridgos-of-boats are kept up during the cold and hot seasons, from October to Juno. These bridgos are under the Karnāl and Bijnaur authorities respectively. A pontoon bridge across the Solāni near Tughlikpur is frequently swept away, and another of very rude construction crosses the Hindan at Budhāna. During the rains a ferry-boat plies across the Hindan at Nāgwa on the Meerut frontier, and another across the Jumna at Rāmra ghāt.

The main line of communication is the Sindh, Dehli and Panjāb Railway, opened in 1869. On it are two railway stations,—the first at

Communications.

Khātauli, almost equidistant from Meerut and Muzaffarnagar, and the second at Muzaffarnagar. The roads in the district are divided into four classes:—first class, metalled and bridged; second class, raised and bridged but unmetalled; third class, unmetalled cross-country roads, not raised, but with a few culverts here and there; and fourth class, village cart-tracks. There are only two roads coming under the first class,—the Grand Trunk road from Meerut to Rūrki and the Muzaffarnagar and Shāmli road. The former enters this district from Meerut and runs nearly parallel to the railway, passing through Khātauli, about four miles from the Meerut border, Bhainsi, Begharazpur to Muzaffarnagar; here it takes a bend to the right of the railway and passes through Sisauna, Chhapār, Barla and Bhukarheri into the Sahāranpur district, with a total length in this district of 36 miles and 1,230 feet, all of which is metalled, raised and bridged. The railway is crossed at the 37th milestone from Meerut, and the Deoband and Bijnaur road crosses this road in the 45th mile at Barla. Although its importance has greatly diminished since the opening of the railway, it still supports a considerable traffic. The Muzaffarnagar and Shāmli Road is as yet only metalled as far as the Hindan, but kunkur for the remainder is collected. It crosses the Kālī nadi by a masonry bridge of three arches of 54 feet span each, in the second mile, where the roads to Thāna Bhawan and Budhāna branch off and then passes by Baghra, Titāwi and Banat to Shāmli. A bridge across the Hindan in the eleventh mile, consisting of ten arches of 50 feet span each, has recently been completed. The Krishni is crossed in the twenty-first mile by a girder buckle-plate bridge: the total length of the road will be 24 miles. A short line of metalled road connects Khātauli town with the railway station.

The principal second-class roads are the following:—

	Miles	Feet.		Miles	Feet.
1. Meerut to Karnāl by Shāmli, ...	38	0	7. Muzaffarnagar to Bijnaur, ...	22	0
2. Shāmli and Kairāna, ...	11	200	8. Deoband to Bijnaur, ...	16	400
3. Shāmli and Kāndhla, ...	13	2,600	9. Tughlikpur and Gordhanpur, ...	9	4,000
4. Banat and Jalālabad, ...	14	1,400	10. Muzaffarnagar and Thāna Bhawan, ...	17	4,200
5. Muzaffarnagar and Sahāranpur, ...	10	0			
6. Ditto and Dharnapura by Jānsath, ...	30	4,000	11. Ditto to Budhāna, ...	16	3,800

The first road passes the Krishna nadi in its 17th mile by a bridge of three arches of 25 feet span each at right angles to the stream. The banks on the up-stream are well defined. From Shámli to the boundary of the district the road is out of repairs and wants culverts; the Kátha nadi, too, is unbridged, as well as a nála near Kerto (33rd mile). After crossing this nála, a village road strikes off to Bidauli and the Jumna, where there is a bridge-of-boats, and the road goes on to Karnál. The Shámli and Kairána road continues by a bridge-of-boats to the Jumna, and on to Pánapat. The third road leads to Delhi by Baraut, Bágpát and Loni. The fourth road joins the Muzaffarnagar road at Thána Bhawan in its eleventh mile and leads on by Nánauta and Rámpur to Saháranpur. The fifth roads leave the Grand Trunk Road at Rámpur and passes through Deoband to Saháranpur. It has a fine avenue of trees on its entire length, and on the fifth mile crosses the Káli by an old bridge with long, arched approaches. The sixth road crosses the railway in its second mile and has a fine avenue of trees for four miles. The fifth mile runs through sandhills and is heavy. After leaving Dharmpur the road passes through the bed of the Ganges and crosses the main stream at the bridge-of-boats leading to Bijnaur. The old Rúrki road branches off from the Grand Trunk Road on the first mile and unites with it again at the end of the fifth mile, and has now been abandoned. The seventh road leads by Bhupa to Bijnaur by the bridge-of-boats at Rauli across the Ganges. The eighth road commences in the nineteenth mile of the Muzaffarnagar and Bijnaur road, and at Bhukarheri meets the Púr road, passing on across the Grand Trunk Road to Rúrki at Barla, and joins the Saháranpur boundary at Kutbpur. The Gordhanpur road starts from the village of that name and runs through the Ganges khádír and the bed of the Soláni to join the Púr road at Tughlikpur. On the tenth road, the Hindan which is 200 feet broad during the rainy season, is unbridged, and the Krishna is unbridged. Similarly on the Budhána road the Hindan is unbridged, and for this reason it is proposed to treat it as a third-class road, to be used for local traffic only, and for through traffic to make a short new line from the Shámli and Muzaffarnagar road at a point near Titáwi through Pipálhora to Thána Bhawan. The third-class road from Muzaffarnagar to Daryapur is hardly discernible in parts beyond Jauli. After passing Daryapur, six miles beyond Jauli, it descends into the Ganges khádír, which is seldom passable except in very dry weather. The following is a list of the third-class or unmetalled and unraised roads:—

	Miles	Feet.		Miles	Feet.
Muzaffarnagar to Jauli,	... 17	4,600	Miránpur to Dharmpur,	... 12	3,200
Old Rúrki road,	... 4	1,500	Khátauli to Jausath,	... 8	1,400
Khátauli and Miránpur,	... 12	1,300	Kairána to Jhanjhána,	... 9	0
Gordhanpur and Manglaur,	... 4	3,000	Circular roads,	... 5	600
Kairána to Budhána,	... 18	3,200	Muzaffarnagar and Pachenda,	... 4	1,352
Púr to Bhukarheri,	... 12	1,500	Khátauli to Budhána,	... 15	2,800

Second and third class roads are repaired every year, just before the close of the rainy season.

The following list gives the distances of the principal places from the headquarters station :—

Baghra, ...	8	Gordhanpur, ...	26	Khátauli, ...	14
Bidauli, ...	36	Jalálabad, ...	21	Mansúrpur, ...	8
Bhainswál, ...	27	Jánsath, ...	14	Míránpur, ...	20
Bhukarheri, ...	15	Jaula, ...	22	Púr Chhapár, ...	16
Bhúma, ...	19	Jauli, ...	9	Sambalhera, ...	18
Budhána, ...	19	Jhanjhána, ...	30	Shámli, ...	24
Chartháwal, ...	7	Kairána, ...	31	Shikárpur, ...	14
Chhapár, ...	9	Kándhla, ...	33	Thána Bhawan, ...	18

The climate resembles that of Saháranpur. The rainfall is less owing to the greater distance from the hills, which removes the district, to a certain extent, from the influence of the local storms not infrequent in the more northern tract immediately under the hills at times when drought prevails elsewhere. The average heat is decidedly greater than in Saháranpur, though perceptibly less than at Meerut, only half a degree south.

The average total rainfall for the eleven years 1860-61 to 1870-71 is given below :—

Period.	1860-61.	1861-62.	1862-63.	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.
1st June to 30th September.	13·4	23·6	31·2	30·1	21·4	22·8	18·8	29·5	11·1	16·4	34·2
1st October to 31st January.	0·1	·4	1·8	2·3	·1	4·6	·3	5·0	1·0	1·8	1·2
1st February to 31st May,	1·6	1·4	...	1·9	9·2	2·2	3·8	3·8	5·2	2·6	4·0
Total, ...	15·1	25·4	33·0	34·3	30·7	29·6	22·9	38·3	17·3	20·8	39·4

The following table gives the total rainfall at the principal stations of the district for the years 1844-45 to 1849-50 from returns existing among the records of the Board of Revenue :—

Name of stations.	1844-45.	1845-46.	1846-47.	1847-48.	1848-49.	1849-50.	Average.
Muzaffarnagar, ...	42·67	28·24	39·88	36·82	19·70	62·14	38·15
Khátauli, ...	55·50	34·65	43·94	39·72	24·23	61·91	43·62
Púr, ...	45·39	30·74	46·40	32·18	22·29	59·77	39·45
Kándhla, ...	28·62	25·67	35·61	41·61	24·16	42·29	32·99
Thána Bhawan,	26·85	29·35	33·20	39·42	23·89	42·87	32·59
Baghra, ...	...	...	...	49·85	22·97	45·08	39·30
Budhána, ...	...	...	...	41·99	19·94	45·79	36·90
Kairána, ...	...	...	...	49·48	22·23	40·10	37·27
Bidauli, ...	...	...	...	45·80	22·74	44·98	37·82
Jhanjhána, ...	...	...	...	40·83	25·79	45·02	37·21
Chartháwal,	...	...	...	32·44	26·87	53·72	34·17
Jánsath, ...	...	...	...	35·75	19·64	54·16	36·58
Míránpur, ...	...	...	...	30·40	14·85	58·98	34·72
Gordhanpur,	...	...	...	33·47	20·39	48·39	34·08
Bhukarheri,	...	...	...	40·43	24·31	49·14	37·96

PART II.

PRODUCTIONS OF THE DISTRICT.

THERE are no animals peculiar to the district, and the remarks under this head given under the Meerut district apply with equal force to Muzaffarnagar. Wild pigs and deer have increased very much, of late years, in the swampy portions of the *khaddir* of the Ganges and do considerable damage to the scanty crops grown there as well as in the neighbouring upland. The thick vegetation along the canal, too, and extensive clumps of sugar-cane cultivation afford during the rains and early cold-weather ample cover for wild pigs and occasionally for leopards. The remainder of the district, with the exception of Bidauli, is too thickly populated to allow of wild animals increasing to the injury of the cultivation. The deaths from the attacks of wild animals and snake-bites in 1869 numbered 35, viz., 32 males and 3 females; in 1872 the deaths of 10 males and 8 females were attributed to the same cause; in 1873 the numbers were 17 males and 7 females, and in 1874, 8 males and 6 females died from snake-bites.

There are no really good breeds of domestic cattle indigenous to these Provinces. The best cattle for draught purposes come from Hānsi in the Panjāb and Nāgpur in the Central Provinces, and next to them are the cattle imported from Nānpāra and Dauroha in the north of Oudh. The cattle in these Provinces are, as a rule, deformed. They are sunk in the neck, short in the body and crumpled at the hump, and these faults are due as much to carelessness in brooding and over-taxation of strength when worked as to inherent causes. The improvement arising from careful crossing and care during the earlier stages of growth is shown at once whenever attempted. Natives are proverbially careless of their stock during the earlier and more important stage of their existence. They starve or stint the calves for the sake of the milk, and then put the ill-fed and ill-grown young animals to work much too soon. To this may be attributed the marked falling off of milch cattle in and about towns and cities where milk is in much demand. Food for milch cows should be partly green, and this should be mixed with *blatta* or chopped straw, finely-powdered oil-cake (*khuli*) husks of *dāl*, &c.; some salt should be added and plenty of pure water should be procurable, not the stagnant water of the holes around the village site. A small tank should be added to each well into which water could be drawn for the cattle with the same care as for the owners. Cotton-seed (*bināula*) is also a favourite fodder for working cattle. Constant crossing does not appear to give good results. For the ordinary small breed of cattle, a cross with an English short-horn or Alderney bull would greatly improve the blood, power, milk and meat; while for the larger breed of cows kept by the wealthier classes, a cross with the English, Sindh or Nāgaudh breeds is recommended.

In Kumaon there is a cross between the yak and the hill breed of cattle, called *jhabu*, which is invaluable for traffic through the passes into Tibet, but neither this cross nor the small, hardy mountain cattle of the Himálayas can live permanently in the plains, nor will the cross with them flourish. The best cattle for beef is the ordinary small breed of the country known as *gainis*, as they fatten soonest, and if the animal be properly fed, the meat is not so coarse as that of the larger breed. A cross between this dwarfish breed and the Kerry cow has done well in Ireland. Buffaloes are chiefly kept for milch purposes, though they are now often used for draught as well. Good buffaloes cost from Rs. 35 upwards, and the price of common animals has risen from Rs. 10 and Rs. 15 to Rs. 20 and Rs. 40. Common cows cost from Rs. 20 to Rs. 30, and Hánsi and Sindh cows from Rs. 50 to Rs. 80. The value of sheep has nearly doubled within the last twenty years, and the supply has not nearly kept up with the demand. Yearly more and more difficulty is found in getting sheep of the requisite age and size for mutton clubs, and nothing is being done to improve the breed or increase the area devoted to sheep-farming. In several districts the Garariya caste, whose profession it is to breed sheep, have been obliged to give up their hereditary occupation and take to cultivation as the area of pasture land yearly decreases, and to this fact also may be, in a measure, attributed the falling off in the character and the increase in the price of cattle for agricultural purposes.

The stud extends its operations to this district, but horse-breeding is not so popular here as in Saháranpur, though some fair animals may be found in the Rajpút *chaubási* in the north-west of the district, on the Saháranpur border. A stud-bred colt may fetch from Rs. 100 to Rs. 125, or even Rs. 140. Stud-bred stallions have been distributed through some of the villages in the Budhána and Jánsath tahsils, and both mares and stallions among those of Shámli. A country-bred horse of the ordinary description may be purchased for Rs. 100, but a really good one can rarely be procured for less than Rs. 250 or Rs. 300. This price is about the limit.

With the exception of the *maháser*, the fishes which are abundant are the same as those found in the Saháranpur district, viz., the *rohu*, *saul*, *chilwa*, *anwári*, and *bán*. They are sold at from one to two annas per ser, and are eaten by Musalmáns, Kahárs and many other Hindús.

The crops grown in the district in the *kharíf* are sugar-cane, cotton, maize, several kinds of rice known as *dhán*, *munji*, *chahara*, *naka*, *bijar*, *ziri*, *kudri*, *sáthi*, &c., *joár* for its grain and as fodder (*chhari*), *mandwa* (*Eleusine corocana*), *moth* (*Phaseolus aconitifolius*), *mdsh* or *urd* (*P. Roeburghii*), *til* (*Sesamum Indicum*), carrots, *arhar* (*Cajanus Indicus*), *mung* (*Phaseolus mungo*), *sánuak*, *gawár*, *chaina*, *kangni*, *lobiya*, *sani*, *patsan*, *bádra*, vegetables, tobacco, and indigo. In the *rabi*, wheat occupies over 30 per cent. of the total cultivated area; next in importance comes barley, wheat and barley

mixed, wheat and gram mixed, gram and barley mixed, barley and peas mixed, gram, peas, *masūr*, *sarson*, vegetables and garden produce generally. The mode of husbandry differs so little from that practised in the Meerut district that any detailed description would be mere repetitions. I shall, therefore, confine myself to local statistics and a comparison of the distribution of the crops at the settlement under Regulation IX. of 1833 in 1840-41 with that found to exist in 1860-61 and at the revision of the Ganges canal tract in 1871-72.

Mr. Thornton notes that in 1840-41, when nearly all rents were paid in kind, a cultivator holding 100 bighas should grow five bighas of sugar-cane, two to five of cotton, about thirty of wheat and of other good crops; there should be a little maize, some *joār*, and about five bighas of *chari* for fodder. There should also be five bighas of the coming year's sugar-cane and about fifty bighas under such crops as *urd*, *moth*, *bājra*, and gram. The following table compiled by Mr. Thornton has reference to 247,227 acres of the cultivation, or two-thirds of the district as it then stood, and includes all the parganahs assessed by him except tahsil Bidauli and parganah Gordhanpur. The object of the table is to show the proportions in which the several qualities of soil together compose the cultivated area; also the proportions per cent. in which the various agricultural products are found both in the whole area and also in each quality of soil. Where, as in "*bhūr*, wet," no proportion is given to the total area, it is because the area is too small to be expressed by one place of decimals. It will be seen that the irrigated land amounted to 17.5 per cent., *misan* to 16.5 per cent., and *bhūr* or sand to 2.8 per cent. of the total cultivated area of the tract to which the statistics refer. *Mukhta* land is land capable of irrigation, equally with irrigated land, only in the rotation of crops its turn had arrived for being cultivated in the *kharif*, which is not usually irrigated. The "average" line shows the proportion in which the products compose the whole cultivated area of all the denominations added together.

Kharif Crops, 1840-41.

Soils.	Soils.	Sugar-cane.	Cane for the next year.	Cotton.	Fodder.	Rice.	<i>Joār</i> .	<i>Urd</i> .	<i>Moth</i> .	<i>Bājra</i> .	Indigo.	Maize.
<i>Misan</i> , wet, ...	6.75	30.75	11.50	5.75	1.00	0.50	1.00	2.00	...	...	...	7.50
" <i>mukhta</i> , ...	3.50	4.25	10.00	14.00	5.50	2.00	7.50	12.50	0.25	...	...	13.25
" dry, ...	6.25	18.00	14.25	7.25	3.25	4.50	3.25	11.75	0.25	0.75	...	2.25
<i>Rausli</i> , wet, ...	3.25	7.75	5.00	2.50	2.25	0.25	4.00	3.75	0.25	...	...	8.50
" <i>mukhta</i> , ...	3.25	1.00	3.00	6.00	9.00	0.75	15.50	15.00	2.00	1.25	...	5.75
" dry, ...	40.00	2.25	2.25	2.50	4.50	1.75	10.50	15.75	2.25	5.00	...	...
<i>Dakar</i> , wet, ...	0.50	2.50	1.00	0.50	0.50	17.25	2.50	2.00	0.25	...	...	5.00
" <i>mukhta</i> , ...	0.50	1.00	1.50	2.00	4.00	24.50	6.75	8.25	...	...	1.75	0.75
" dry, ...	8.00	1.75	1.00	0.50	2.00	32.75	6.00	12.50	0.75	0.75	...	1.75
<i>Bhūr</i> , wet, ...	...	7.50	8.25	2.50	0.75	1.00	1.00	2.00	4.50	...	...	1.50
" <i>mukhta</i>, ...	...	...	2.00	3.00	3.00	...	7.00	3.50	10.75	9.00	...	1.50
" dry, ...	28.00	0.50	0.50	0.75	1.75	0.75	2.25	3.00	10.25	32.00	...	1.00
<i>Nihal</i>, ...	...	1.75	...	...	...	0.50	0.50	0.50	...	...	...	...
Average, ...	100	4.75	3.50	2.75	3.25	3.75	8.50	9.75	3.75	11.25	...	3.25

Rabi Crops, 1840-41.

Soils.							Dofasli or extra crops.					
	Wheat.	Gram.	Barley.	Bejar.	Oil-seed.	Other crops of both seasons.	Wheat.	Gram.	Barley.	Sugar-cane.	Other crops.	Total.
Misan, wet, ...	32.00	1.75	2.50	0.50	...	3.00	2.50	1.25	0.75	6.50	0.75	11.75
" mukhta, ...	9.75	14.50	1.00	1.00	...	4.00	0.50	...	0.25	10.25	...	11.00
" dry, ...	23.75	5.75	1.25	0.75	0.25	2.25	0.50	2.75	0.25	1.00	0.25	4.75
Rausli, wet, ...	63.00	3.50	2.75	0.50	...	1.00	1.50	1.50	0.25	...	...	3.25
" mukhta, ...	15.00	19.75	1.00	0.75	...	3.25	0.25	0.25	3.25	0.25	...	4.00
" dry, ...	32.00	11.00	2.00	2.00	0.25	5.75	1.00	1.00	1.25	0.25	0.50	4.00
Dakar, wet ...	52.50	10.00	3.50	1.00	...	1.25	5.75	8.00	3.25	0.75	1.00	18.75
" mukhta, ...	10.50	34.50	2.50	0.25	...	0.50	0.50	5.75	1.00	1.00	1.00	12.25
" dry, ...	14.00	20.25	1.75	1.25	...	1.25	1.25	2.75	1.75	0.50	1.00	7.25
Bhar, wet, ...	55.50	2.00	8.00	2.00	...	3.25	...	...	...	1.50	...	1.50
" mukhta, ...	23.75	17.50	4.25	4.50	...	6.75	...	...	...	...	...	...
" dry, ...	21.00	7.50	12.00	8.25	0.50	1.00	0.25	0.25	0.50	...	...	1.00
Nihal, ...	34.50	7.25	35.00	11.25	...	1.50	...	1.00	...	...	...	1.00
Average, ...	26.50	9.25	4.75	3.25	0.25	1.50	1.40	1.50	0.75	1.25	...	4.50

These figures are taken from Mr. Thornton's report and show an average *kharif* cultivation of 54.5 per cent. of the total cultivation and an average *rabi* cultivation of 45.5 per cent.

The returns of the distribution of produce for 1860-61, though cast in a different form, will, in their general result, admit of comparison with the returns of 1840.¹ The following statement shows the distribution of the crops in each parganah (not in each class of soil as before) and gives the results of the statistics of the entire district. The figures show the percentage of the area under each crop to the entire cultivated area of the district, and exhibit a general improvement in the proportionate cultivation of the better classes of crops:—

Kharif Crops, 1860-61.

Parganah.	Sugarcane.	Sugarcane for next year.	Cotton.	Fodder.	Rice.	Jadr.	Mash or urd.	Moth.	Bagra.	Mandua.	Maize.	Other kharif crops and fallow.
Mazaffargarh, ...	6.7	2.8	2.5	8.3	2.7	1.8	10.2	10.8	4.8	...	0.3	1.4
Pur Chhapar, ...	8.0	1.0	3.5	6.5	2.5	0.7	8.0	7.0	17.0	...	0.2	2.1
Charthawal, ...	4.5	...	4.5	11.5	3.0	2.5	14.0	6.5	2.0	0.7	2.5	3.3
Budhana, ...	3.7	...	3.2	19.0	2.0	14.0	3.0	8.0	0.7	0.5	3.2	3.7
Baghra, ...	6.7	1.3	2.8	14.7	1.7	4.0	8.0	4.7	1.3	0.5	3.0	4.3
Shikarpur, ...	7.5	1.0	3.0	14.0	1.5	5.0	3.5	11.0	0.5	0.3	2.2	2.5
Kandhia, ...	5.5	...	5.5	7.0	6.7	12.0	2.5	1.2	0.3	0.7	5.8	2.8
Jansuth, ...	6.7	1.2	3.3	6.5	1.7	3.0	15.5	5.2	15.8	...	1.5	2.9
Khatauli, ...	11.0	3.0	3.0	6.0	1.5	3.0	10.0	7.0	4.5	...	2.0	3.0
Bhuma, ...	6.0	1.5	2.8	4.0	6.0	1.2	6.7	7.5	19.0	...	3.0	2.3
Bhukarheri, ...	6.5	1.3	2.0	4.2	5.5	0.7	12.5	10.0	17.5	...	1.2	1.1
Shamli, ...	8.2	...	4.2	11.8	6.8	7.5	3.0	1.5	0.5	2.3	4.2	0.5
Kairkua, ...	1.0	...	5.2	7.0	3.2	11.0	3.7	2.2	2.0	2.0	4.0	4.0
Jhanjhana, ...	6.0	...	3.2	18.3	5.3	1.0	1.5	2.0	0.8	1.2	4.0	4.0
Thana Bhawan, ...	4.5	...	4.0	9.0	10.5	3.0	5.0	1.5	1.0	1.7	4.0	3.5
Bidauli, ...	3.5	...	2.7	11.5	1.5	3.0	0.5	1.5	1.5	2.7	4.3	4.3
Gordhanpur, ...	8.0	...	2.3	4.0	9.7	0.5	...	...	...	10.3	1.2	2.3
Average, ...	6.2	0.7	4.1	9.6	4.3	4.4	6.4	5.1	5.2	1.3	2.7	2.8

¹ In comparing the tables for 1840-41 with those for 1860-61 it must be remembered that the former only apply to a portion of the present district, but the general result will, to a great extent, hold good for the district as it now stands.

Rabi Crops, 1860-61.

Parganah.	Wheat.	Barley.	Gram.	Bajra.	Vegetable.	Goju.	Masur.	Other rabi crops and fallow.	Proportion to total cultivation of.	
									Rabi crops.	Kharif crops.
Muzaffarnagar, ...	29.5	4.0	5.0	0.7	0.2	...	...	8.3	47.7	52.3
Pur Chhapar, ...	25.5	8.3	3.5	0.6	...	3.2	...	2.5	43.5	56.5
Charthawal, ...	42.5	1.3	0.7	0.2	...	0.3	...	...	45.0	55.0
Budhana, ...	21.0	1.8	2.8	...	...	...	...	13.4	39.0	61.0
Baghra, ...	16.3	1.2	1.2	...	1.3	...	...	27.3	47.3	52.7
Shikarpur, ...	19.0	1.7	0.8	...	...	0.3	...	26.3	48.0	52.0
Kandhla, ...	38.2	0.5	9.3	0.3	...	1.5	0.2	...	50.0	50.0
Jansath, ...	19.0	3.7	3.8	...	...	2.0	...	14.2	36.7	63.3
Khatauli, ...	26.0	1.0	6.0	...	...	1.0	...	12.0	46.0	54.0
Bhuma, ...	15.7	8.5	2.8	...	...	8.7	...	4.3	40.0	60.0
Bhukarheri, ...	18.0	10.5	3.0	0.3	...	0.7	...	5.0	37.5	62.5
Shamli, ...	32.7	1.3	11.7	...	...	...	0.3	3.5	49.5	50.5
Kairana, ...	40.5	2.0	11.0	0.3	...	...	0.2	0.7	54.7	45.3
Jhanjhana, ...	47.0	2.0	2.7	...	...	0.5	0.5	...	52.7	47.3
Thana Bhawan, ...	46.5	1.5	2.3	...	...	...	...	...	58.3	41.7
Bidauli, ...	55.7	5.0	1.5	...	...	0.3	0.5	...	63.0	37.0
Gordhanpur, ...	48.5	5.7	4.0	...	...	0.8	1.3	1.4	61.7	38.3
Average, ...	31.6	3.1	4.3	0.1	...	1.1	...	7.0	47.2	52.8

The following table gives the distribution in acres over the cultivated area of the crops grown during the three years 1868-69 to 1870-71 :—

Year.	KHARIF.							RABI.					DOFASLI CROPS			Total cultivation.
	Rice.	Cotton.	Jowar and Bajra.	MIL.	Pulses.	Other crops.	Total kharif.	Wheat and barley.	Pulses.	Oil-seeds.	Others.	Total rabi.	Sugar.	Vegetables.	Plant trees.	
1868-69,	38,547	19,287	20,402	2,412	21,317	103,916	209,845	223,539	10,426	970	22,000	257,541	31,721	2,012	10	501,135
1869-70,	40,380	27,858	47,274	818	...	171,001	287,071	223,589	18,428	987	22,000	257,004	38,221	3,210	...	580,100
1870-71,	44,757	82,781	54,164	224	...	185,983	312,809	224,812	12,000	876	27,402	260,180	42,829	3,825	2	620,736

We have still later information for a portion of the district in the returns of the cultivated area of the Ganges canal parganahs, and can compare these figures with the statistics collected at the settlement by Mr. Thornton in 1840-41. Mr. Elliot revised the assessment of Bhuma Sambalhera in 1836, and his crop statements are not procurable. The following statements show the percentage of each crop on the total cultivation in 1840-41 and in 1871-72 for five parganahs according to the settlement records, and for the sixth parganah for the latter year only. The total cultivated area includes 661 acres of *barah* or garden land,

the crops of which are too small to notice. The figures give the percentage occupied by each crop to the total cultivated area :—

Kharif Crops.

Parganah.	Area in acres.	Sugar-cane.	Cotton.	<i>Munji</i> , or fine rice.	<i>D h & n</i> , or coarse rice.	Maize.	<i>Jodár</i> .	Fodder.	<i>Urd</i> .	<i>Bajra</i> .	Other kharif crops.
Púr Chhapár—											
1840-41, ...	20,016	4'0	3'0	...	4'0	...	...	...	...	...	43'0
1871-72, ...	23,855	5'3	4'2	7'3	2'2	0'2	0'8	8'0	7'8	15'2	5'7
Muzaffarnagar—											
1840-41, ...	21,523	4'0	2'0	...	3'0	...	...	...	...	...	45'0
1871-72, ...	26,606	5'8	3'2	4'0	3'5	0'3	1'7	8'7	8'5	11'0	10'5
Bhukarhori—											
1840-41, ...	19,853	4'0	2'0	...	5'0	...	...	...	...	...	46'0
1871-72, ...	27,151	5'5	3'8	5'7	2'3	0'5	0'7	6'8	10'0	18'8	4'7
Jauli Jānsath—											
1840-41, ...	25,807	4'0	2'0	...	5'0	...	...	...	...	...	48'0
1871-72, ...	27,824	6'3	3'0	2'7	2'8	0'7	1'5	7'7	11'3	11'2	8'8
Khátauli—											
1840-41, ...	21,457	5'0	3'0	...	3'0	...	...	...	...	...	45'0
1871-72, ...	24,943	9'3	3'7	2'8	4'7	2'3	2'5	12'0	7'5	3'2	11'0
Bhúma Sambal-hera—											
1871-72, ...	21,616	6'8	3'3	1'2	1'0	2'8	1'2	6'5	7'5	16'7	12'5
Total of 1871-72,	151,995	6'5	3'8	4'0	2'7	0'8	1'5	8'2	8'5	12'7	8'5

Rabi Crops.

Parganah.	Area in acres.	Wheat.	Gram.	Barley.	Wheat and barley and wheat and gram.	Other rabi crops.	TOTAL.		Twice cropped.	Prepared for cane after a crop.	Total cultivated area in acres.
							Kharif.	Rabi.			
Púr Chhapár—											
1840-41, ...	17,076	29'0	...	5'0	...	12'0	54'0	46'0	...	...	37,122
1871-72, ...	18,273	25'3	1'7	8'3	7'2	0'8	56'7	43'3	2'7	1'5	42,149
Muzaffarnagar—											
1840-41, ...	18,335	32'0	...	1'0	...	13'0	54'0	46'0	...	...	39,858
1871-72, ...	19,738	30'2	3'3	4'2	2'7	2'4	57'2	42'8	0'6	0'3	46,436
Bhukarhori—											
1840-41, ...	14,977	20'0	...	10'0	...	13'0	57'0	43'0	...	...	34,830
1871-72, ...	19,067	22'2	2'8	12'7	3'0	0'5	58'8	41'2	4'7	0'8	46,271
Jauli Jānsath—											
1840-41, ...	17,933	20'0	...	8'0	...	13'0	59'0	41'0	...	...	43,740
1871-72, ...	22,175	26'5	5'5	6'2	4'0	1'8	56'0	44'0	3'0	0'3	50,319
Khátauli—											
1840-41, ...	16,859	30'0	...	1'0	...	13'0	56'0	44'0	...	...	38,316
1871-72, ...	17,217	34'0	4'0	0'8	1'0	1'2	59'0	41'0	6'5	1'5	42,223
Bhúma Sambal-hera—											
1871-72, ...	14,371	16'0	3'3	9'2	10'0	2'0	59'5	40'5	8'0	0'8	36,599
Total of 1871-72,	111,341	26'3	3'5	7'0	4'7	1'3	57'2	42'8	4'3	1'0	263,997

Since 1841 the area under sugar-cane, cotton, *chari* and rice has risen, and in the Ganges canal parganahs especially, the cultivation of the finer kind of rice known as *munji* has increased considerably. Before the opening of the canal it could only be grown in

favourable spots in the *khaddir* and noar tanks, but it now alternates with cane, cotton, maize, wheat and gram in the very best land around the village, and is equally esteemed with them. The proportion of the cultivation under *khairif* crops would seem to have slightly increased in some parganahs since 1841, but although this is the case, there can be little doubt that the cold-weather crops are cultivated with better results than formerly, owing to the improved character of the soil and of the cultivation, and also that they are sown in as large, if not a larger, area than before. Although there is no record of the *dofasti* land, or land bearing two crops, in 1841 for the whole district, it is fairly certain that the facilities for irrigation afforded by the canal and the increased competition for land have rendered the practice of taking two crops off the best land in a single year much more common than of old. In 1841 the statistics for over one-half of the district show less than five per cent. of the total area under two crops. It would also seem that the proportion of cane grown after fallow is less than formerly prevailed, and the practice of planting the cane in a field which has just given a rain-crop now generally obtains. Thirty years ago, to grow cane after fallow was the rule, now it is the exception, and cane follows cotton, maize, *urd*, and the finer rice, and but very seldom succeeds wheat. Formerly more than two-thirds of the cane area lay fallow, now hardly one-ninth is allowed to rest. *Moth* and *batjra* among rain-crops and barley in the cold weather are the clearest signs of poor soil and careless agriculture in this part of the country, and the improvement in this respect is marked. The very small proportional area devoted to *jodr* is perhaps due to the soil not being suitable to this crop, and partly to the fact that it is difficult to preserve it from the attacks of birds in a fairly wooded country and to the lateness of the crop, which prevents a second sowing and necessitates the devotion of a very considerable area to fodder crops. The area under *chari* and *gawar* is extensive in proportion to the excellence of the farming and the large number of cattle required, and in the inverse ratio to the acreage under the poorer rain-crops and to the extent of waste land available for grazing purposes. Taking the superior rain-crops, such as cotton, sugar-cane, maize, *munji*, and to a less extent *urd* and *chari*, they occupied 32·7 per cent. of the total cultivated area and 62 per cent. of the *khairif* area in 1860-61; and the better *rabi* crops, such as wheat and gram (even omitting the mixed crops of wheat and barley, gram and wheat, peas and wheat), occupied 35·8 per cent. of the total cultivated area and 76 per cent. of the *rabi* cultivation. In 1870-71 cotton, sugar and rice alone occupied 19·1 per cent. of the total cultivation, while barley and wheat alone covered 35·7 per cent. It should be borne in mind, however, that though barley is grown in poor soil, it does not cover all the poor soil, and that wheat is often sown in very bad land, but at the same time its presence is an unquestionable sign of careful cultivation. Comparing all the returns, there can be no doubt that cultivation has

improved in quality and area very considerably since 1841, and that the movement is still on the right side. The next thirty years must show a still greater advance until all the available waste is absorbed, and then we must look to improved processes of husbandry for any further progress. On the whole, then, it may be stated that while the area under spring crops, such as wheat, gram and barley, has hardly, if at all, changed, the area under sugar-cane has increased generally and almost doubled in the Ganges canal tract, while the rice crop has more than doubled in the same tract and has improved in quantity and quality, and the area devoted to fodder crops has increased. The tendency is to increase the area of crops which may form valuable articles of export, as sugar, rice, and even wheat, at the expense of the poorer classes of crops of the same season, and hitherto the increase in the cultivated area has more than balanced the increased area devoted to other than food-grains.

In the matter of manure the area of the *mīsan* and *bārah* land gives the area of the manured land and a gauge of the resources of a village in this direction. In two-thirds of the district in 1840-41 the *mīsan* area amounted to 16·5 per cent. of the total area cultivated. Sugar-cane, wheat and cotton are grown in *mīsan* land, and "the man who has grown the customary quantity of them," writes Mr. Thornton, "is no more considered to have exerted an usual industry than is he considered to have abused his situation by sowing *urd*, *moth* and the rest of the poor crops, much of which will be succeeded in the following year by wheat. If he cultivates less of the better crops than is the ordinary proportion he would, in universal opinion, be acting dishonestly. It appears, therefore, that in the present state of agricultural science and with the present habits of the people in using cow-dung as fuel, the available manure only suffices for this portion of the land under crops." In 1860-61 the *mīsan* area had increased to 20·4 per cent. of the cultivated area and is still increasing, for if we take the area of the Ganges canal parganahs and compare their statistics for 1861-62 with those collected in 1871-72, we find the manured area entered as 36 per cent. of the cultivated area. Increased population brings with it increased manure and a larger area devoted to the better crops, and nowhere is this shown better than in the upland portions of the parganahs lying in the Ganges-Kāli Dnāb. In his remarks on parganah Khātauli, Mr. Cadell, while accepting the rise from 20 per cent. in 1861-62 to 36 per cent. in 1871-72, is inclined to place little confidence in the results ordinarily deducible from these entries, and would not give much weight to them. He writes:—"It is very common in this neighbourhood to grow the cane crops in clumps around the ostate, in this way giving nearly every field of good land its turn of manure and of the most careful cultivation. In this way a very ordinary rotation would give nearly half the cultivated area and nearly the whole of the irrigated area manured." Still there can be little doubt but that the manured area has increased considerably of late years.

The following statement gives the time of sowing and cutting and cost of cultivation of the principal crops as estimated by the tahsildárs in each tahsil (S=Shámli; B=Budhána; M=Muzaffarnagar, and J=Jánsath):—

			Time of sowing.	Time of cutting.	COST OF CULTIVATION.							Outturn per acre.	VALUE OF OUT-TURN.		Profit per acre.
					Seed.	Irrigation.	Labour.	Rent.	Other charges.	Total.	Price per maund.		Amount.		
			R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.	M.	R. s. a. p.	R. s. a. p.	R. s. a. p.		
Cotton,...	{ S. B.	Jeth, Asárl, ...	Kárttik, ...	0 4 0	3 12 0	3 0 0	0 0 0	0 8 0	10 8 0	0	3 8 0	21 0 0	1 8 0		
		...	Pús, ...	..	...	...	...	...	15 0 0	74	4 0 0	30 0 0	15 0 0
Malze, ...	{ S. B. M. J.	Ditto, ...	Kárttik, ...	0 4 0	2 13 0	1 0 0	4 8 0	4 0 0	12 9 0	10	1 5 4	13 5 4	0 12 4		
		Ditto, ...	Asaul, ...	...	...	...	...	...	8 0 0	0	1 5 4	12 0 0	4 0 0
		Ditto, ...	Ditto and Bhádon.	...	...	...	...	...	8 2 0	15	1 5 4	20 0 0	11 14 0
		Ditto, ...	Kárttik Margsir.	0 4 0	2 12 0	8 5 0	...	...	11 5 0	15	1 5 4	20 0 0	8 10 3
Joár, ...	{ S. B.	Ditto, ...	Margsir, ...	0 10 0	...	2 8 0	3 0 0	0 8 0	0 10 0	0	1 5 4	8 0 0	1 6 0		
		Ditto, ...	Kárttik, ...	...	...	...	...	...	4 8 0	0	1 5 4	12 0 0	7 8 0
Coarse rice.	{ S. B. M. J.	Ditto, ...	Asaul, ...	0 8 0	3 12 0	0 12 0	6 0 0	1 0 0	13 0 0	18	1 0 0	18 0 0	0 0 0		
		Ditto, ...	Bhádon, ...	...	...	...	...	...	7 0 0	12	1 4 0	15 0 0	0 8 0
		Ditto, ...	Kárttik, ...	...	...	...	...	...	10 5 0	18	1 0 0	18 0 0	0 7 11 0
		Ditto, ...	Ditto, ...	0 12 0	0 0 3	5 0	...	...	13 1 0	18	1 0 0	18 0 0	4 15 0
Wheat,...	{ S. B. M. J.	Kárttik, ...	Bálsákh, ...	2 8 0	3 12 0	1 4 0	6 0 0	8 0 0	15 0 0	12	1 10 8	20 0 0	5 0 0		
		Ditto, ...	Ditto, ...	...	...	...	...	...	18 0 0	18	1 10 8	30 0 0	0 12 0
		Do, Margsir.	Chait, Bálsákh.	...	...	...	...	...	11 3 3	36	1 0 0	30 0 0	0 24 13 9
		Ditto, ...	Bálsákh, ...	1 8 0	2 13 0	3 15 0	...	...	8 4 0	12	1 9 7	19 3 0	10 15 0
Barley,...	{ S. B. M. J.	Kárttik, ...	Ditto, ...	1 12 0	2 12 0	1 8 0	3 0 0	3 0 0	12 0 0	12	1 4 0	15 0 0	3 0 0		
		Asaul, ...	Ditto, ...	...	...	...	...	...	8 0 0	12	1 0 0	12 0 0	0 4 0
		Kárttik, ...	Phálgun, ...	...	...	...	...	...	0 9 0	15	1 0 0	15 0 0	8 7 0
		Ditto, ...	Pús, ...	0 9 0	2 13 0	2 0 0	...	...	5 6 0	12	1 0 0	12 0 0	6 9 0
Gram,...	{ S. B. M. J.	Asaul, ...	Bálsákh, ...	1 8 0	...	1 8 0	3 0 0	1 8 0	7 8 0	9	1 0 11	12 13 3	5 0 3		
		Ditto, ...	Chait, ...	...	...	...	...	...	5 0 0	9	1 8 11	14 0 3	9 0 3
		Ditto, ...	Ditto, Bálsákh.	...	...	...	...	...	4 2 0	12	1 5 4	10 0 0	11 13 6
		Ditto, ...	Chait, ...	0 9 0	...	2 10 0	...	...	8 4 0	12	1 5 4	10 0 0	12 12 0
Sugar-cane.	{ S. B. M. J.	Chait, Bálsákh.	Pús, Mág,	0 0 0	4 0 0	0 0 0	12 0 0	40 8 0	70 12 0	324	3 0 0	97 8 0	30 12 0		
		Phálgun, ...	Margsir, ...	...	...	...	...	...	60 0 0	30	3 0 0	90 0 0	30 0 0
		Chait, ...	...	...	...	...	...	...	...	...	...	...	...
		Phálgun, ...	Kárttik, ...	...	...	...	...	...	37 10 0	30	3 8 0	105 0 0	07 0 0
		J. Phálgun, Chait,	Ditto, ...	4 8 0	0 0 0	1 13 0	...	...	15 5 0	30	3 8 0	105 0 0	09 10 6

These estimates must be purely hypothetical, and are not only imperfect but considerably under the mark. No account is apparently taken of the value of the straw, and the estimated value of the labour given by the cultivator is too high. The returns are, however, useful, as showing the opinion of natives of much local experience, and how little confidence can be placed in them, and the outturn per acre may be advantageously compared with the note on produce returns given hereafter. The Budhána and Jánsath figures, apparently, do not in several instances include the important item of rent.

Continuing the agricultural vocabulary given under the Meerut district, I shall here note the terms used for implements generally in the Meerut district and in Muzaffarnagar.¹

Implements.

Commencing with the *hal* or plough, the three pegs which prevent the *halas* from shifting forwards are called *banel*. These pegs press against the *hal*. At the yoke end of the *halas* are three holes pierced in which the *nirts* or leathern thongs are tied. The yoke is attached by these. The holes themselves are called *karhe*. In this district the whole of the yoke is known as *jhu*. The word *tarmachi* applied elsewhere to the lower piece is unknown. All the pins of the yoke are known by one name, *sail*. The ropes or thongs attached to the inner pins are called *jot*, and the knots at both ends of these ropes are called *ndugla*. In this district the drilling machine is attached to the plough. The channel through which the seed descends is here called *wairna*. If a man wishes to plough deep he harnesses the yoke higher up the *halas*. This deep ploughing is called *lagu*. When light ploughing is necessary the yoke is fastened lower down the *halas* nearer the share. This light ploughing is called *askulsiya*. The *katha* is a circular piece of iron placed on the share to prevent its going too deep into the earth, and the *kharwa* is a peg to prevent the *phul* or iron share from slipping out. The *dikan* is a harrow with teeth for eradicating grass from ploughed land, and costs about Rs. 2. It is especially used to mix up the earth and water in a field tilled with rice and *munji*. There are usually four teeth called *khuntis*.

The *maira* is a harrow without teeth and is drawn over a ploughed field after the seed has been sown; it costs about 24 annas. The *lakar* is a large wooden roller weighing from six to eight maunds. The block itself is

Lakar.

called *lakar*, the pivots *chil*, and the traces to which the yoke is attached are called *guriya*. There are two other names applied to this implement, one is *dhaphor* or *dhelaphor*, another is *or* or *tor*. This roller is used for crushing clodded clayey soil, as the *maira* is used for *blair* land for the same purpose. The *manjha* or *jindra* is the implement used for dividing a field into *kayaris* or small beds with a view to economy in the use of water; it is used by two men, one holds the handle and the other holds a string attached to the block in a direction opposite to the handle. It is worth only about four annas. *Jeli* is a kind of rake for collecting cut corn. The *kolhu* is the sugar-press.

Kolhu or sugar-press.

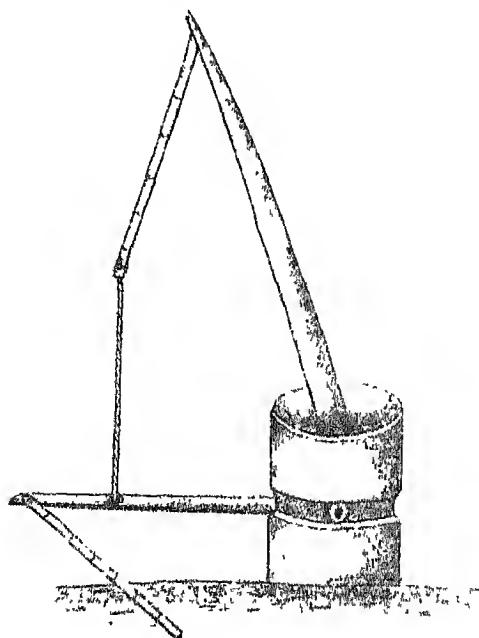
press are given by Sir. H. Elliot in the language of Benares and Rohilkand, and it may be interesting to

¹ From notes by Mr. S. H. James, C.S. In Muzaffarnagar one plough represents stock as follows:—Two bullocks at Rs. 75 to 90, or four bullocks at Rs. 120 to 150; plough and appurtenances, Rs. 3-8 to 10; *ad*, Rs. 10 to 15; *charas*, Rs. 4 to 5, and other implements, such as the *hasi*, *maira*, *phaura*, *khurpa*, *gandasa*, and *daranti*, Rs. 2-12 to 3-11, or a total of Rs. 65-4 to 123-11. To these may be added a *garhi* at Rs. 30 and a sugar-mill at Rs. 40, so that it requires a fair amount of money to set up a small farmer, and he has frequently to borrow the amount necessary at an usurious rate of interest.

compare with them the names current in this and the Meerut district, which fairly represent the upper Duáb.¹

Meerut.	Rohilkhand.	Benares.	Explanation.
(1.) Pát,	Pát,	Kudli, ...	The horizontal beam to which bullocks are attached.
(2.) Lāth, gālā, chāuran and nāl.	Lāth and jāth,	Pát, <i>jāth</i> , ...	The upright beam which moves in the mill.
(3.) Māsa, māl, and malkham.	Malkham, ...	Khunta, ...	The upright post which is parallel to the last.
(4.) Makā and dhabka.	Chirya, ...	Dhenka, ...	The wood by which the two preceding are joined to one another.
(5.) Mālā and jhāl, ...	Orī, ...	Orī, ...	The basket on the horizontal beam from which the mill is fed.
(6.) Nāl and nār, ...	Nālī, ...	Nālī, ...	The leather thong by which the horizontal beam is connected with the yoke.
(7.) Paur,	Paith, ...	Ghagra, ...	The circle in which the bullo is move.
(8.) Sāhya,	Sāya, ...	Sāka, ...	The cup in which the expressed juice is transferred into the boiler.
(9.) Jhokāt,	Jhokand, ...	Jhokand, ...	The place from which the fuel is supplied to the fire under the boiler.
(10.) Dhāndhla, ...	Dhāndra, ...	Dhāndka, ...	The outlet for the smoke.
(11.) Dhoī,	Dhor, ...	Dohra, ...	The spoon for taking the juice out of the boiler.
(12.) Chāndwa, ...	Chāndwa, ...	Gai da, ...	The scrape to prevent the sugar resting at the bottom of the boiler.
(13.) Nih,	Ota, ...	Nesur, ...	The raised blocks on which the cane is cut.
(14.) { Gundrāla, } { and } { Gandwāla, }	Gandarwāla,	Garcera, ...	The receptacle for the sugar-cane before it is cut.

Besides these terms, the log connecting the *pát* and *dhabka* is sometimes called *bānkmal*. A *kolhu* costs from Rs. 30 to Rs. 60, and the wooden beams, the *kundi*, *chāk*, and *nand* (or vessels used in various processes) about Rs. 6. The hire of a *kardāhi* or iron-boiler for a season is Rs. 10.



BENARES KOLHU OR SUGAR-MILL.

¹ Beames' Elliot, II., 375.

Other implements used in husbandry are the *gārhi* or *gāri* (cart), the driver of which is called the *gāriwān*. The following is a list of the names of its different parts in this district.

Other implements.
It will be seen that they differ more or less from the names given by Elliot.¹ The wheel generally is called *pāhiya*. The spokes of the wheel are called *ari*; *puthi* is the felloe of a wheel. Of these felloes there are generally four. The nave of the wheel is called *nāh*. The *andhi* is a small iron hoop going round the extremities in the middle of the *nāh*, and the *awan* is the small hoop inside the *nāh* in which the axlo turns. The axlo itself is called *dhura*. The two long shafts extending on either side from front to back are *phārs*, the transverse pieces are called *patri*, those extending beyond the wheel are called *tikānts*. The *bānk* or *painjani* is the curved beam that joins the two *tikānts*. *Chakel* is the iron pin for scouring the *bānk* to the *dhura* or axle. The upright posts that support the siding are called *khalevas*; they are eight in number, four on either side, and are themselves fixed in the four transverse pieces called *patri*s. The long bambu poles supported by the *khalevas* laid horizontally to form the top of the sides are called *chandots*, and the similar but shorter pole along the top of the tail of a cart is called *udhiyār*. These *chandots* have a further support in the four posts fixed in the *tikānts*, which also take the strain off the *khalevas*. Those four posts are called *dege*. Parallel to the *chandots* and placed on the *patri*s are the two long bambu poles called *mūngi*. The ropos strung on the *chandots* and *mūngi*s and so forming the sides of the cart are called *phūrkas*. The reeds laid out at the bottom of the *gāri*, so that nothing may fall through, are called *chhābar*. The part under the yoke, forming the extremities of the *phārs*, is called *mathāpara*, and the protruding piece beneath this, on which the *gāri* sometimes rests, is called *antara*. The place where the *gāriwān* sits is called *panjāla*. The leather rope binding the yoke to the *mathāpara* and *antara* is called *nār*, the third rope securing the yoke to the *phār* is called *joga*. Of these there are two, one on the outside of each *phār*. The small beam under the *phār* and in front of the *tikānt* is called *gaj*. The two posts attached to the *phārs* near the *mathāpara* on which the loaded *gāri* is made to rest are called *dāhi*.

As illustrations of the local dialect, other terms relating to rural life are given, and compared with those mentioned by Elliot.
Rural vocabulary. One of the sacks or baskets called *akaia* in the glossary is here *mānohi*. A pair of grain bags used as a pannier termed *akha* in the glossary are here *khūnji*. The word *ara*, with the meaning of cross-ploughing, is in this district the second ploughing. The first ploughing is *pār*, the second is *dasar* or *ara*. The *basūli* is a small instrument for cutting, the diminutive of *basūla*, an adze; the *chāshni* is a pan in which the juice of sugar-cane is boiled;

¹ Beames' Elliot, 231.

it is much the same as the *karāhi* except that it is somewhat larger. The *chāih* is a pad to prevent laden bullocks from being galled. *Chhāj* is a basket used in winnowing grain and also for irrigation. The *chhinka* is an ox-muzzlo. A feeding trough in this district is *khūr*. The platform on which a person is posted to protect crops is here a *tānd*. *Gandāsa* is here a reaping-hook, called elsewhere a *garāsa*. The word is derived from *dasa*, a reaping-hook, and *ganna*, sugar-cane ready for cutting. The bundle of thorns tied together and drawn by bullocks over corn for the purpose of beating out the grain is in the glossary called *dhenkar*, in this district it is called *phalsa*. This process is never resorted to except where cattle are scarce. The word here applied to the treading of corn is *gāhna*. Besides this, *dhān jorna* is applied in the same sense. *Dahendi* is a vessel for holding *daht* or curds. *Dohni* is the name of the vessel which holds *dūdh*, or fresh milk. The word *jhūkri* is much used and is synonymous with *dohni*. *Darānti* is a sickle. *Dantauli* or *dantiva* is a rake. The rope which binds the bullocks together when threshing, called in the glossary *dauri*, is here called *jon*. The rope round the neck of a yoked bullock is here *galtant*. An ox goad is here termed *sānta*. A pair of plough oxen, called in the glossary *gotn*, are here called a *jot*. A shoaf of corn is *gari*, not *gaira*. *Harsot* is used here to signify the bringing of the plough home across the back of a bullock or with the share inverted, after the conclusion of a day's work. *Hasiya* is a reaping hook. *Judhna* is a pad placed on the top of the head to support a water-jar. The *māndal* is the iron ring at the mouth of the *charas*. The *chaukta*, *dahāna* or *kutgar* is the wooden grating placed over a well to prevent people falling in, called elsewhere *janayla*. The *jīr* is the well-yoke with the two *jāds* parallel to each other. The *jāli* is a net used for binding up grass. *Barkhi* is a strong rope of hemp. *Adāna* is the framework of the well on which the wheel works, either post of which is called *gahlat* or *kanba*; the cross post is *maiyāl*, and the pin supports of the wheel, or *charkhi*, the *goriya* and *sija*.

Wells, tanks, and canals are used, in this district, for irrigation. Throughout the uplands, where water is found at a great depth, masonry wells are scarce, and *kuchcha* wells can only be dug at a great expense and only last for a year or two. Masonry wells for two pair of bullocks are said to cost from Rs. 400 to Rs. 500, and from Rs. 250 to Rs. 300 for one set of bullocks. Earthen wells cost from Rs. 25 to Rs. 30, and are impracticable in the more sandy tracts. Where water is near the surface *kuchcha* wells can be constructed for about seven or eight rupees, and in the Jumana *khālir* for from two to three rupees. Here, too, they last sometimes as long as one year, but usually for only one season or crop, and irrigate about four acres each. There is little tank-irrigation except in parganahs Shānli and Charthāwal. The following

statement shows the proportion of irrigation due to canals, wells and tanks respectively, as shown by the settlement records prepared in 1860-61:—

Statement showing the mode of irrigation in 1860-61 and in certain parganahs in 1871-72.

Parganah.	AREA IN ACRES IRRIGATED FROM				Total wet area.	Dry area.	Total cultivated area.	MASONRY WELLS IN 1860.		
	Wells.	Tanks.	Total.	Canals.				In repair.	Out of repair.	Total.
Shámli, ...	15,612	1,004	16,616	14,607	81,223	14,232	45,455	758	119	877
Kándhla, ...	12,659	292	12,951	25,755	38,806	11,529	50,329	355	42	397
Thána Bhawan, ...	9,468	632	10,100	9,598	19,698	7,994	27,692	567	165	732
Budhána, ...	18,318	...	18,318	200	18,518	16,764	35,282	186	24	210
Shikárpur, ...	19,348	...	19,348	1,865	21,208	27,279	48,487	422	35	457
Baghra, ...	14,016	...	14,016	4,880	18,896	23,142	42,038	485	85	570
Jhanjhána, ...	13,901	269	14,170	5,138	19,308	5,138	25,011	808	134	942
Chartháwal, ...	8,318	1,990	10,308	4,865	15,173	29,176	44,349	253	54	307
Khátauli,—										
1860-61, ...	3,254	...	3,254	16,632	19,886	20,478	40,364	300	53	353
1871-72, ...	3,437	419	3,856	20,428	24,284	17,930	42,228	...	...	...
Kairána, ...	16,451	631	17,082	7,853	24,935	8,707	33,642	794	123	917
Gordhanpur ...	51	288	349	...	339	15,779	16,118	5	...	5
Bidauli, ...	14,068	...	14,068	...	14,068	6,476	20,544	857	105	962
Muzaffarnagar,—										
1860-61, ...	2,708	...	2,708	18,956	21,664	20,253	41,917	160	18	178
1871-72, ...	1,664	207	1,871	18,791	20,662	25,774	46,436	...	...	...
Bhukarheri,—										
1861-62, ...	164	...	164	25,238	25,402	22,462	47,864	17	...	17
1871-72, ...	39	17	56	23,861	23,917	23,917	46,271	...	...	...
Fár Chhapár,—										
1861-62, ...	259	...	259	26,025	26,284	14,819	41,103	2	...	2
1871-72, ...	111	49	160	19,865	20,025	22,124	42,149	...	...	...
Jánsath,—										
1861-62, ...	2,083	...	2,683	15,881	18,564	30,199	48,763	184	24	208
1871-72, ...	2,522	202	2,724	21,521	24,245	26,074	50,319	...	...	...
Bhúma,—										
1861-62, ...	552	...	552	7,631	8,183	33,032	41,215	42	8	50
1871-72, ...	417	70	487	9,012	9,499	27,100	36,599	...	...	...

The figures for 1860-61 are taken from Mr. Martin's final report, and those for 1871-72 from Mr. Cadell's parganah reports.

Irrigation in this district from the Ganges canal dates only from the year 1855. The maximum area irrigated was obtained during the year of drought in 1868-69, when 128,203 acres were watered from this canal alone; the returns of an ordinary year show less than one-half this amount. Throughout a great portion of the tract traversed by the Ganges canal, owing to the prevalence of sand, irrigation was in former times practically unknown. Towards the south-east of the district in Bhúma, close around the town of Muzaffarnagar, to the south of Jánsath, and in a great portion of Khátauli, well-irrigation was common, but the greater portion of the area now watered by the canal had few wells and no tanks or other reservoirs.

for water. The west Kāli nadi runs far below the level of the uplands, and the minor streamlets which occur in the south-east could never have been of use for irrigation purposes. Before the introduction of the canal, the whole area might be said to be dependent upon the rainfall for its water, and only here and there and within the lowlands of the rivers could any reliance be placed upon the outturn from cultivation. Now, with the exception of a few villages in each parganah, the whole of the eastern portion of the district through which the canal runs is amply supplied with water, and, year by year, the few outlying estates are brought nearer and nearer to obtaining a share of water sufficient for all their wants. In addition to the practical prevention of the occurrence of famine in seasons of drought, the canal has had a marked influence in promoting the cultivation of trees for timber, fruit, and shade. Along the canal itself plantations of *siru*, *tin* and the acacias flourish, and the example so successfully shown has been followed to some extent by the proprietary cultivating bodies throughout the canal-irrigated tract.

At the same time, the canal has not been altogether a gain to the district.

Injury caused by the canal.

Besides the sanitary evils to be noticed hereafter, to which the canal has given rise, much unnecessary loss has been occasioned by the obstruction of the natural drainage lines by the works on the canal and its distributaries. On this subject Mr. Cadell writes :—“A great work like the Ganges canal could not, of course, be turned aside to avoid the depression of the east Kāli river, but it is to be regretted that the existence of this depression as a line of drainage was not earlier and more practically acknowledged. But besides this, distributary after distributary has been run out without regard to the drainage of the country, and for many years the necessity of allowing waterway under the irrigation channels was not practically admitted, and it is only in quite recent years that the department has made it a rule that drainage should be facilitated instead of being obstructed. Now, unfortunately, the remedy has been rendered more difficult by the fact that the railway engineers seem to have considered that obstructions of drainage by irrigation works justified similar obstructions by the railway. The argument was not a good one; for a canal running across a drainage line and unprovided with permanent waterway under it, could be cut when flooding became serious, whereas the railway embankment forms a much more permanent barrier. Within the last few years very great improvement has been effected: one of the worst of the offending distributaries has been abandoned, permanent means of escape for the surface drainage have been constructed under several others, and in Muzaffarnagar an important system of drainage has greatly improved the condition of the neighbourhood, and similarly thorough work in the southern parganahs will quickly remedy the evils which have resulted from want of forethought in past years.

“In the Muzaffarnagar parganah especially, as to a less extent elsewhere, it must be admitted that the evil appeared more serious owing to the improvements which the canal itself has effected. Thirty years ago, when land was in less request, wide margins were left round ponds and depressions, and it was only in seasons of excessive rainfall that flooding occurred. Now cultivation has encroached upon the old depressions, small ponds have been ploughed up, and the area of cultivated land so situated as to be liable to injury from a heavy but not exceptional rainfall, has been largely increased. If, then, the Irrigation Department has a good deal to answer for with reference to drainage obstruction, it is also frequently blamed for what is only a natural result of the increased value of land, which thirty years ago was allowed to lie waste, while it now swells the profits of the landlord in a dry year, and intensifies the outcry against the department in a season of plentiful rain. There is now less ground for complaint, for a good deal has been done already, and when the projects under consideration shall have been completed, there will, as far as one can see, remain only the south-west corner of the tract (in which the railway, the canal and its distributaries have run more than ordinary riot among drainage lines), from the town of Khátauli to the Meerut boundary to be drained. But besides the, in most cases, unnecessary injury to the upland which has been occasioned by irrigation works, another evil may be justly attributed to the canal, and that is the great increase of marsh in the valleys of the rivers. As far as the eastern parganahs are concerned the injury has not been very serious, because the valley land is limited in extent, but its deterioration has been general and complete, alike in the Ganges valley and near the west and east Káli rivers, and it is probable that only in the case of the land lying along the latter streams, and especially in the valley of the east Káli, would the reclamation of the land give any adequate return for the expenditure required. When, therefore, the great improvement due to the canal comes to be estimated, it will be necessary to deduct a comparatively trifling sum for the injury to the valley which has been found inseparable from the improvement of the upland.”

Mr. Cadell is borne out in his opinion by other officers. Thus Mr. S. N. Martin writes of Púr Ohhapár, that “1,336 cultivated acres have deteriorated by percolation from the canal;” and in writing of parganah Muzaffarnagar he says:—“I have had many complaints about the uncertainty in the supply of canal water, often just at the critical period when the cane crops threaten to dry up unless moisture is given to the roots. On enquiry at Rúrki I ascertained these complaints to be well founded.” Mr. C. Grant, also, speaks of the damage done by the overflow of the Nágan and its tributaries when used as canal escapes in parganahs Jánsath and

Khátauli. From the northern to the southern boundary of the Púr parganah all but the very highest and sandiest fields below the upland Soláni villages. have been seriously injured by percolation from the canal added to the natural moisture of the Soláni *khádír*. Where cane, cotton and wheat were formerly grown, in dry seasons, rice occasionally succeeds, but much of it is hopelessly ruined, and the old rice land is now a reed-grown swamp. Cultivation has fallen from 1,470 acres in this tract to 836 acres, and the class of crop grown has also deteriorated. Cane is now grown in only one village, the area of cotton is gradually becoming more and more restricted, and the rice crop is now greatly less in area, inferior in quality, and more uncertain in produce. Formerly it was the only portion of the parganah in which the produce was tolerably assured, now it is the tract in which the crops are most doubtful and in which the produce is least valuable. Notwithstanding these injuries, the general result of the Ganges canal in this district has been an almost unmixed benefit to the people, for, compared with the increase in cultivation generally and in the production of the better class of crops, the loss is almost inappreciable.

The increase of revenue due to the influence of the canal has been very considerable in this district. Mr. S. N. Martin estimated the amount due to the influence of canals in the whole district at Rs. 74,880. In this estimate he made allowance for masonry and earthen wells thrown out of use by the canal, as well as for the average amount of earthen wells which might reasonably be expected to be brought into use should the canal supply be stopped. The result of his inquiries for the parganahs watered by the Ganges canal is given below. I also give Mr. Cadell's estimate in 1875, which is exclusive of the owner's rate:—

Parganah.	MR. MARTIN'S ESTIMATE, 1863.			MR. CADELL'S ESTIMATE, 1875.				
	Revenue of canal-irrigated villages.	Portion due to canal.	Balance.	Area irrigated in 1840-41.	Area irrigated in 1872-73.		Amount credited to canal at Rs. 1 per acre.	Year in which to be credited.
					Canals.	Other sources.		
							Rs.	
Púr Chhapár, ...	59,330	12,290	47,040	53	19,925	100	19,972	1873-74.
Muzaffarnagar, ...	68,442	8,630	59,812	3,133	18,966	1,696	17,529	ditto.
Bhukarheri, ...	60,770	4,933	55,837	162	23,860	57	23,755	ditto.
Jauli Jānsath, ...	58,578	3,716	54,862	6,273	21,520	2,725	17,972	ditto.
Khátauli, ...	66,311	6,943	59,368	10,812	20,422	3,862	13,472	ditto.
Bhúma Sambalhera, ...	46,706	3,553	42,153	1,200	9,001	498	8,290	ditto.
Total, ...	359,137	40,265	318,872	21,633	113,694	8,938	100,990	

The following table shows the irrigated area from the Ganges canal for seven years according to seasons as shown by the irrigation reports of the Canal Department:—

Area irrigated.			PARGANAH.					
			Pâr.	Bhukarheri.	Bhûma Sambal-hera.	Jauli Jânsath.	Muzaffarnagar.	Khâsauli.
Year.			A cres.	A cres.	A cres.	A cres.	A cres.	A cres.
1866-67.								
Kharif,	...	...	6,162	5,616	1,544	3,721	5,940	5,032
Rabi,	...	...	10,568	11,438	3,525	10,005	10,947	7,139
Total,	...	...	16,730	17,054	5,069	13,726	16,887	12,171
1867-68.								
Kharif,	...	...	7,368	7,193	1,898	4,591	7,080	6,218
Rabi,	...	...	6,874	6,606	1,126	1,660	6,957	5,120
Total,	...	...	14,242	13,799	3,024	6,251	14,037	11,338
1868-69.								
Kharif,	...	...	7,347	7,091	2,129	5,592	6,741	7,845
Rabi,	...	...	17,506	18,079	5,309	17,754	17,028	15,082
Total,	...	...	24,853	25,170	7,433	23,346	23,769	22,927
1869-70.								
Kharif,	...	...	8,166	8,293	2,073	6,342	8,989	7,776
Rabi,	...	...	5,843	6,232	1,423	5,782	7,815	7,991
Total,	...	...	14,009	14,525	3,496	12,124	16,804	15,767
1870-71.								
Kharif,	...	...	6,041	6,373	1,946	4,860	6,437	5,864
Rabi,	...	...	8,481	9,195	2,151	6,101	8,685	9,572
Total,	...	...	14,522	15,568	4,097	11,051	15,122	15,436
1871-72.								
Kharif,	...	...	5,111	5,482	1,620	3,532	5,783	5,234
Rabi,	...	...	7,108	6,193	1,140	4,110	6,769	7,306
Total,	...	...	12,219	11,675	2,760	7,642	12,552	12,540
1872-73.								
Kharif,	...	...	5,567	5,726	1,643	4,458	6,424	5,659
Rabi,	...	...	5,914	6,339	1,392	3,717	5,498	6,039
Total,	...	...	11,481	12,065	3,035	8,175	11,922	11,698

Irrigation from the Eastern Jumna canal was considerable before the last settlement and has increased very much of late years.

Eastern Jumna Canal. The irrigated area at the last settlement cannot now be ascertained, but with the exception of Kándhla, Shámli and Thána Bhawan there were few portions of the western half of the district fully irrigated. The canal authorities appear to have been much less successful in economically distributing the water here than on the Ganges canal. In writing of Thána Bhawan Mr. Cadell remarks that the enormous proportion of old and new fallow in the tract to the west of the Hindan must be due "to the gradual falling out of cultivation of land which has been injured by over-irrigation." Mr. A. Colvin says of the same tract, "the villages bordering the canal are very much affected by the efflorescence known as *reh* which is destructive to all vegetation. The barren land of those villages at the last settlement was 535 acres, it is now 2,407. The increase in barren is chiefly attributable to the increase of this land." In fact it would appear that this tract is deteriorating rather than improving, and it is entirely owing to the rise in prices and the consequent rise in rent that there was not a serious diminution in the land revenue at the present settlement. The same tale is told of Shámli to the west of the Krishni. Here over-irrigation has done its deadly work. Mr. Cadell writes:—"The land is slowly but steadily deteriorating, and malaria has enfeebled the population * * * the cultivated area is decreasing owing to the steady inroads of swamp and *reh*, and as irrigation is now so general, little improvement can be looked for in the great majority of estates from a large supply of canal water. Indeed, in many cases we must look for improvement to a systematic lessening of the canal-irrigated area, and to the benefit which is likely to follow from a return of the people to the use of wells. It would, I am convinced, be difficult to over-estimate the advantage which has been derived by many estates in this neighbourhood from a judicious supply of canal water, but it would be also difficult to overstate the injury which has been caused to the immediate neighbourhood of the canal by the short-sighted policy of deluging low-lying tracts with the sole object of collecting high water-rates over a limited area, and without paying the slightest attention to the wants of more distant lands, to the health of the people, or to the indirect revenue which a more enlightened system of distribution would secure to Government." Still, on the whole, as in the case of the Ganges canal, the benefits derived from the Eastern Jumna canal may be fairly said to compensate for the injuries it inflicts, and when the drainage projects now contemplated have been completed there will be little room for complaint.

The proportion of the increase in the land-revenue due to the action of the Eastern Jumna canal was estimated in 1863 by Mr. S. N. Martin at Rs. 34,565 as noted

below. Mr. Cadell's estimate in 1875, exclusive of owner's rate, is also given :—

Parganah.	MR. MARTIN'S ESTIMATE IN 1863.				MR. CADELL'S ESTIMATE IN 1875.	
	Initial revenue including canal profits.	Revenue of villages irrigated from the canal.	Canal profits.	Revenue minus canal profits.	Area irrigated as recorded at settlement.	
					Canals.	Other sources.
Budhāna, ...	69,846	5,986	210	69,636	200	18,318
Shikārpur, ...	1,03,801	25,886	2,277	1,01,024	1,865	19,342
Baghra, ...	81,091	21,520	3,227	78,464	4,880	14,016
Charthāwal, ...	61,257	18,903	1,850	59,407	4,865	10,308
Jhanjhāna, ...	56,698	31,085	2,767	53,931	5,138	14,170
Thāna Bhawan,	57,082	42,775	6,024	51,058	9,598	10,100
Shāmlī, ...	1,20,057	77,370	5,107	1,14,950	14,607	16,616
Kāndhla, ...	1,11,410	78,990	9,456	1,01,954	25,855	12,951
Kairāna, ...	52,307	25,780	3,647	48,660	7,853	17,082
Total, ...	7,13,649	3,28,245	34,566	6,79,084	74,861	1,32,904

In Mr. Martin's estimate the amount of land irrigable from wells which had fallen into disuse since the canal was opened was calculated and allowed for at the rate of twenty-two acres per well. The difference between the wet and dry rates on the remainder of the irrigated area gives the profit due to the influence of the canal after allowing for all possible irrigation. It must be remembered that this is only an estimate, for there are no trustworthy statistics of the irrigation from the Eastern Jumna canal at the settlement in 1841.

The average estimated irrigation for the years 1839-40 and 1840-41, in this district, from the Jumna canal amounted to 22,205 acres; in 1850-52 the average was 37,515 acres, and

for 1858-59 and 1859-60 the returns show an average of 58,615 acres. The following statement shows the returns for seven years :—

Year.	Thana Bhawan.	Jhanjhana.	Shamli.	Baghra.	Budhana.	Charthawal.	Shikarpur.	Kairana.	Kandhla.	Bidari.	Total.
1866-67.											
Kharif, ...	3,590	2,532	4,632	1,466	28	1,187	977	2,882	8,870	...	26,164
Rabi, ...	5,626	5,700	8,654	3,041	122	1,636	2,250	6,734	18,550	...	52,313
Total, ...	9,216	8,232	13,286	4,507	150	2,823	3,227	9,616	27,420	...	78,477
1867-68.											
Kharif, ...	3,244	2,526	3,411	1,546	33	1,506	902	2,140	4,886	...	12,094
Rabi, ...	2,480	2,749	3,377	2,751	59	773	1,709	3,016	8,790	48	26,632
Total, ...	5,724	5,275	6,788	4,297	92	2,279	2,611	6,056	13,676	48	46,846
1868-69.											
Kharif, ...	3,587	2,477	4,296	1,773	23	1,846	1,112	2,196	9,336	97	26,843
Rabi, ...	6,232	4,116	6,384	3,002	29	3,265	1,068	4,000	6,521	183	44,800
Total, ...	9,819	6,593	10,680	4,775	52	5,111	2,180	6,196	25,857	280	71,643
1869-70.											
Kharif, ...	4,528	3,185	5,411	1,858	24	2,022	838	3,522	11,604	95	33,087
Rabi, ...	4,649	4,235	6,328	2,889	34	1,645	1,572	3,649	12,130	179	37,310
Total, ...	9,177	7,420	11,739	4,747	58	3,667	2,410	7,171	23,734	274	70,397
1870-71.											
Kharif, ...	4,041	2,912	4,790	1,732	27	1,864	977	2,702	8,481	48	27,580
Rabi, ...	3,469	3,003	5,726	2,407	89	1,243	1,424	3,367	12,280	106	33,109
Total, ...	7,506	5,915	10,516	4,139	116	3,112	2,401	6,069	20,761	154	60,689
1871-72.											
Kharif, ...	2,562	2,072	3,480	1,326	34	1,447	916	1,857	5,292	56	19,042
Rabi, ...	3,783	3,932	7,210	2,788	172	1,554	2,120	3,979	15,323	83	40,944
Total, ...	6,345	6,004	10,690	4,114	206	3,001	3,036	5,836	20,615	139	59,986
1872-73.											
Kharif, ...	3,064	2,089	4,250	1,482	58	1,617	1,013	2,350	5,151	1	21,075
Rabi, ...	2,979	3,160	5,281	2,413	297	1,582	1,835	3,814	9,616	163	32,143
Total, ...	6,043	5,249	10,531	3,895	355	3,199	2,848	6,164	14,767	164	53,218

I give below statements showing the crops irrigated from both canals for several years. The Ganges canal, in addition to causing less harm by over-saturation of the soil, has done much good by promoting the cultivation of the better crops. Taking the five parganahs of Púr Chhapár, Muzaffarnagar, Bhukarheri, Jánsath, and Khátauli, the areas under the superior crops in 1841 and 1871 were as follows:—

		Sugar-cane.	Cotton.	Common rice.	Wheat.	Barley.	Other crops.	Total cultivation.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1841,	...	8,138	4,632	7,759	50,729	9,620	112,988	193,866
1871,	...	14,293	8,194	6,913	63,146	14,834	120,018	227,398

The entire area under sugar-cane watered by the Ganges canal was in 1869-70 21,133 acres, and in 1872-73 was 22,768 acres. *Munji* rice, followed by gram, is about as valuable as sugar-cane, and is grown in rotation on the same land, and the best is found in villages with a plentiful supply of canal water. In no case has the influence of the canal been more marked than in the cultivation of *munji*. It was unknown in the uplands, of the Ganges canal tract, in 1841, and, for many years, the cultivation of rice was unduly encouraged by the low water-rates charged for this crop. The rates have now been raised, and with the old artificial inducement to this cultivation removed, the canal-irrigated area of this crop has fallen from 20,448 acres in 1869-70 to little more than 9,000 acres in 1873-74 and 1874-75, whilst that of sugar-cane has risen from 14,305 acres in the first-named year to 20,904 acres in 1874-75.

Crops irrigated from the Ganges Canal.

Crops.	1869-70.	1870-71.	1871-72.	1872-73.	Crops.	1869-70.	1870-71.	1871-72.	1872-73.
Gardens, ...	336	433	226	299	Other pulses, ...	1,656	365	603	1,108
Sugar-cane, ...	14,304	15,593	12,974	15,443	Fodder, ...	1,068	64	71	55
Wheat, ...	29,551	38,444	28,046	26,746	Cotton, ...	2,023	188	232	85
Barley, ...	1,454	2,209	709	215	Other fibres, ...	171	478	564	250
Rice, ...	20,450	14,712	12,495	13,321	Indigo, ...	158	123	158	116
Maize, ...	469	16	2	1	Other dyes, ...	...	8	15	26
Other cereals, ...	1,049	183	793	56	Drugs, ...	12	9	...	...
Gram, ...	3,382	2,949	2,394	86	Oil-seeds, ...	2	29	106	64

Crops irrigated from the Eastern Jumna Canal.

M=by measurement; C=by contract.

Crops.	1868-69.		1869-70.		1870-71.		1871-72.		1872-73.	
	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.
Gardens, ...	456	801	771	246	621	4	584	...	548	...
Sugar-cane, ...	6,011	1,887	5,489	1,340	6,148	18	6,127	7	7,914	11
Rice, ...	6,485	1,925	9,755	2,555	1,237	78	7,940	26	8,859	8
Wheat, ...	27,882	10,918	29,874	276	29,330	227	35,208	122	28,961	80
Barley, ...	1,773	405	1,994	1	1,146	12	1,341	2	730	2
Maize, ...	2,519	1,266	3,147	1,771	1,318	12	1,229	8	545	2
Other cereals, ...	118	104	704	224	509	1	126	1	1,019	4
Pulses, ...	2,399	802	4,286	317	2,141	3	1,281	6	726	4
Fodder, ...	1,327	651	862	661	550	7	260	8	111	1
Fibres, ...	1,773	798	3,158	1,513	6,005	44	2,394	30	2,409	8
Dyes, ...	264	355	398	676	916	28	593	23	1,079	10
Drugs, ...	...	...	40	2	57	...	47	6	34	...
Oil-seeds, ...	124	13	171	...	74	...	350	...	344	...

The necessity for attempting something to remedy the evils complained of by the district officers in Muzaffarnagar, and indeed Drainage operations in connection with the canal. throughout the whole of the Meerut Division, led to a conference of collectors and canal officers in January, 1875, when the Government resolved to set on foot a complete scheme of drainage in connection with the canals and river systems of the northern Duáb, and works to cost over nineteen lakhs of rupees were taken in hand during the year. The following is a summary of the principal facts brought forward at the conference which bear upon this district. On the Eastern Jumna canal, the Bhainswál cut on the right bank of the canal, which was intended to take a portion of the drainage which comes down the old bed of the canal, works badly, as where it gets into the high land its banks fall in and get choked. The Saláwar cut takes the greater portion of the drainage of the old bed of the canal under the present canal to the Krishni Nadi. Water now accumulates in the loops of the old bed of the canal where it has been abandoned, and the drainage of these accumulations forms part of the Krishni and Kátha projects. The town of Shámli and the country below it is constantly flooded from the overflow of the Shámli nála. A scheme for deepening and enlarging the bed of this channel is now in hand and is estimated to cost about two lakhs of rupees. In the meantime, the lower part of the bed will be deepened at once, so as to provide an outfall for the water which lodges in the town of Shámli, and the municipality will co-operate by digging channels within its own limits. The Fatehpur cut starts from the large jhil of Fatehpur Aldi in pargana Kándhla, about a mile from the right bank of the canal, and passes under the canal by a syphon to the Krishni Nadi. Beyond the canal the cut has been of some

benefit, but it has not yet proved sufficient to carry off the flood-water from the village of Aldi. The swamps around the town of Kándhla will be taken in hand, in connection with the Kirthal drainage scheme in the Meerut district. The entire country along the right bank of the canal in the Thána Bhawan parganah near Muhammadpur Madan and between Shámli and Kándhla is in much need of drainage, and will be provided for in connection with the Kátha and Krishni schemes.

On the Ganges canal the Soláni reclamation works are in active progress year by year, and a considerable area has been raised by the deposit of silt. The similar swamps to the south in the water-logged portions of parganahs Bhukarheri and Bhúma will be taken in hand. A project for the continuation of the Rehi cut (opened in 1873), so as to drain the swamps along

Ganges Canal.

the Grand Trunk Road and around the town of the Chhapár, is under consideration, as also Baddhiwála cuts. A system of cuts for the relief of lands lying to the east of the town of Muzaffarnagar was completed before the rains of 1874 and did much good, and since then the drainage of Pachenda, Makhiáli, and Begharazpur has been included in the scheme. Between the Makhiáli distributary and the sand-hills which run down the middle of the district is a chain of small hills, some seven miles long; an outlet was provided for their storm-water under the right main distributary in 1872, and a drainage cut will now be made leading into the main cut of the Muzaffarnagar scheme below the village of Sandhauli. The Bhainsi cuts will afford relief to the drainage of seventy square miles of country lying between the sand-hills and the canal. The Nágan Nadi drainage scheme is intended to provide for the drainage of a large area lying between Jánsath and Khátauli, and the left bank of the Nágan Nadi by improving the bed of the latter, and by cuts from Jánsath, Tisang, and Chandsamand. The two former cuts were made some years ago, but they have not been successful, as Jánsath was flooded in the rains of 1874. In connection with this scheme a line of drainage is projected to carry off the water between Khátauli and Banghi into the East Káli Nadi. These with other minor works will complete the drainage system of the district as far as can be seen, and one good result has, at least, taken place, that the evil has been acknowledged, met and grappled with, and in a few years we may hope that fever-epidemics will be a thing of the past in Muzaffarnagar.

Before the opening of the canals, Muzaffarnagar must have suffered much from the famines which have periodically visited the

Famines and drought.

Duáb, and some account of which is given in the introduction to the second volume of the Gazetteer. Though a fall of rain in the beginning of February, 1838, lessened the famine area in the district, it suffered greatly in common with the remainder of the Duáb, and its influence was shown in the large proportion

1837-38.

1860-61.

of land shown as "recently abandoned" in the returns of the settlement in 1840-41. The remissions on account of the famine for the year 1245 *fasli* (1837-38 A.D.) amounted to Rs. 39,286. Famine again visited the district in 1860-61, when the Anúpsahr branch of the Ganges canal was undertaken as a famine-relief work. Owing, however, to the presence of the canals the pressure of the scarcity in this district was not felt so severely as elsewhere, and during January, 1861, it was only found necessary to expend Rs. 283 in outdoor relief to 3,182 persons, while in Meerut, to the south, 25,864 persons came for relief, and in Saháranpur, to the north, the numbers were over 17,000. Still for the next six months it was found necessary to relieve an average of 710 persons daily at an average daily cost of Rs. 174. The favourable nature of the season, during and after July, enabled the cultivators to plough their lands, and to assist them Rs. 25,000 were advanced as *takkávi* for the purchase of stock and seed. The balances rose to Rs. 1,34,095, of which sum the collection of Rs. 1,03,116 was postponed indefinitely and Rs. 31,531 for a certain period, and ultimately Rs. 10,607 were remitted.

We next come to the famine of 1868-69. In this district there was scarcely any rain from the end of July, 1868, to February, 1869. The rain-crops failed in the unirrigated portions of the uplands, and the sowings for the cold-weather crops were generally confined to the irrigable area. On such lands, however, the yield from the *rabi* harvest was good. Moreover, at the close of the year 1868, there were large stores of corn hoarded in the grain-pits of the district, and these changed hands, several times, during the last three months of the year without ever being opened. The existence of these supplies kept down prices, and distress was further mitigated by the high wages and ample work procurable on the Sindh, Panjáb and Delhi Railway, then under construction. In August, 1868, cartmen could earn eight to twelve annas a day, and there was abundant demand for every class of labour. The prices ruling at the close of the year rose to 9 sers per rupee for wheat, 11 sers for barley, and 10 sers for *hájra*, and occasioned much distress, so that it was eventually found necessary to provide both gratuitous relief and famine works. Between the 4th of January and 15th of September, 1869, a daily average of 53 persons received gratuitous relief at a cost of Rs. 2,659. The most important of the famine works were the Shámli and Muzaffarnagar road, and the road from Deoband in the Saháranpur district through the north-eastern parganahs to Bijnaur. During the last three months of 1868 immigrants arrived from Bikanir and the western states of Rajputána, but refused to work; the able-bodied passed to the east and the destitute and sick were relieved in the work-houses. Altogether between December, 1868, and October, 1869, an average of 195 persons were employed daily on relief works in this district at a cost of Rs. 6,583. Trade

was vigorous during the famine, and the district exported not only its own stores but was the channel of an important transit trade in grain. In September, 1868, there were large imports of corn from Meerut, and straw for cattle came in December from Saháranpur. In January, 1869, great quantities of maize came by the Ganges canal into Khátauli. Again in March 600 maunds of grain came in by rail from the Panjáb, but the subsequent strain on the local supplies for the Panjáb, Saháranpur, and Rohilkhand was very great. In March the northern parganahs exported wheat to Saháranpur, and towards the end of the same month considerable consignments were sent to Ambála (Umballa). During the first week in April the Ambála markets received 2,000 maunds of grain from this district, and in the following week Rs. 6,000 worth. In July, 1869, exports went on to Agra, Bhawáni, Bijnaur, and by the canal to Cawnpore. The drain towards Ambála, also, continued and did not cease until after the rains of 1869. On the 3rd of September 2,550 maunds of grain were despatched, and the high rates in August, which equalled the rates prevailing during the most critical period (December, 1868), must be due to the same cause. The coarser grains soon became as dear as the finer, for though some relief was given by the *khariif* of 1868, in February, 1869, *joár* and *bájjra* were offered at higher prices than wheat, and the scarcity of these grains is still more conspicuous in the succeeding months until the demand for wheat in August, 1869, brought the prices once more nearly level, wheat being quoted at $10\frac{1}{2}$ sers per rupee and *joár* at $9\frac{1}{4}$ sers. The following table shows the prices ruling in the last week of each month during the season of scarcity :—

Months.			Wheat.		Barley.		Bájjra.		Joár.		Common rice.		Gram.	
			S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.
February, 1869,	...	...	12	2	16	8	11	0	11	0	8	10	11	11
March	"	...	14	7	17	9	11	9	11	9	9	1	12	2
April	"	...	15	11	22	0	11	0	11	9	10	2	12	10
May	"	...	18	15	23	11	...	...	...	...	10	7	11	0
June	"	...	16	8	20	14	12	4	9	14	9	14	12	2
July	"	...	12	2	15	6	8	13	9	14	9	5	9	14
August	"	...	11	9	12	11	8	13	11	0	8	4	8	13
September	"	...	11	0	13	7	9	15	13	3	8	13	9	9
October	"	...	11	4	14	13	12	10	15	7	11	0	9	14
November	"	...	10	11	13	3	14	4	17	0	10	7	9	15
December	"	...	10	2	13	3	13	13	17	9	11	0	8	14
January, 1870,	...	...	11	0	13	8	17	2	19	13	11	0	9	15
February	"	...	10	7	13	3	16	0	17	1	11	9	8	14
March	"	...	13	3	13	12	15	15	19	4	11	9	8	13

Kunkur for road metal is scarce in the district. There are only two fair quarries in the Shámli tahsíl, only one in Jánsath and one in the bed of the Soláni in the Muzaffarnagar tahsíl. The distance from these quarries is so great that the kunkur for the trunk road is

brought from the Meerut and Sahāranpur districts. First-class bricks $12'' \times 6'' \times 3''$ cost from eight to ten rupees per 1,000; $9'' \times 4\frac{1}{2}'' \times 2\frac{1}{2}''$ seven to eight rupees per 1,000, and small native bricks Rs. 2-8-0 per 1,000. Goodwyn's tiles cost Rs. 14 per 100 and Syriau tiles Rs. 12. Stone lime costs Rs. 50 per 100 cubic feet; kunkur lime, Rs. 18, and *surkhi*, Rs. 8. Digging kunkur for roads, cleaning and stacking costs Re. 1-8-0 to Rs. 2 per 100 cubic feet, and cartage costs nine to ten annas per 100 cubic feet per mile. Altogether metalled roads, cost for maintenance twelve to fourteen rupees per mile per mensem, and here the average cost of kunkur placed on the road rises to the very high sum of Rs. 8-8-0 to Rs. 14 per 100 cubic feet, and consolidating the same costs one rupee per 100 cubic feet. Sāl logs from the Garhwāl forests cost Rs. 2-4-0 to Rs. 2-8-0 per cubic foot, and dressed and placed in position, the costs rises to Rs. 3-12-0 and Rs. 4 per cubic foot. In earthwork, excavating light soil with a lead of 75 feet costs Re. 1-12-0 per 1,000 cubic feet; with 150 feet lead, Rs. 2; and with 200 feet lead, Rs. 2-4-0. Foundation excavations cost Rs. 2-8-0 to Rs. 3 per 1,000 cubic feet. Concrete masonry in foundations cost Rs. 14 per 100 cubic feet and fine concrete costs Rs. 15; whilst first-class brick-work costs Rs. 22, second-class Rs. 20, and third-class Rs. 15. Arch masonry and brick-work in cornices, mouldings and other ornamental work cost Rs. 25 per 100 cubic feet. Best half-inch plaster of stone lime costs Rs. 3 per 100 cubic feet; kunkur lime, Rs. 2-12-0; and white washing, two to three annas. Terrace roofing costs Rs. 3 per 100 square feet: thatching nine inches thick, Rs. 9; tiled roofing, Rs. 6-8-0; and Goodwyn's tiles, Rs. 16. Iron work costs Rs. 16 to Rs. 20 per maund; painting three coats of green Rs. 2 per 100 square feet, or red or white, Rs. 3-12-0. Glazed and pannelled doors are made for from Rs. 85 to Rs. 95 per 100 square feet and pannelled doors for Rs. 75 per 100 square feet.

PART III.

INHABITANTS OF THE DISTRICT.

THE enumeration of 1848 gave a total population numbering 537,594 souls, of whom 172,304 were Hindu cultivators and 218,341 were Hindus following other callings; 61,445 were Musalmān agriculturists and 85,504 were Musalmāns following occupations unconnected with the cultivation of the soil. The entire population gave 333 souls to the square mile, residing in 934 villages,¹ of which 803 had less than 1,000 inhabitants and 121 had between 1,000 and 5,000. The towns having a population exceeding 5,000 were Muzaffarnagar (7,264), Budhāna or Burhāna

¹ There were in addition 194 villages without inhabitants (*lā-churāghī* or "lampless"). The returns of 1848 and those incidentally noticed as having been collected at settlement refer to the permanent residents only, the remainder to all residents in the district on the day the census was taken.

(5,559) Kándhla (7,062), Shámli (8,447), Jalálabad (7,789), Jhanjhána (5,662), Chartháwal (5,111), Jásath (5,312), Kairána (11,470), and Thána Bhawan (11,221). The urban population only numbered 74,897 souls, or about 14 per cent. of the total number of inhabitants. Even amongst these there must have been a large proportion dependent more or less on the land for their subsistence. In fact the towns in this district partake far more of the nature of large villages than of towns proper, and the entire district is essentially agricultural in its character.

The census of 1852, better known as the census of 1853 from the year of report, shows a total population numbering 672,861 souls, or 409 to the square mile. There were 490,171 Hindús (221,420 females), of whom 241,246 were engaged in cultivating the soil and 248,925 souls were engaged in other occupations. The Musalmáns numbered 172,690, (39,607 females) of whom 73,943 were cultivators and 98,747 were engaged in avocations unconnected with agriculture. Of the 887 inhabited villages, 717 had a population less than 1,000 and 159 had between 1,000 and 5,000 inhabitants. The towns with more than 5,000 residents were the same as in 1847 with the addition of Miránpur. The changes occurring between 1847 and 1853 resulted in an increase of 10 villages and 7,828 inhabitants, but even deducting these from the total population given in 1853 the increase is striking, and must, in a great measure, be attributable to defective enumeration in the first census.

The census of 1865 is more valuable for the purposes of comparison. It gives a total population of all sexes, ages and creeds of 682,212 souls, showing 414 to the square mile. The same broad division into agriculturists and those following other occupations was made, and gives the results shown in the following table :—

Class.	AGRI CULTURAL.					NON-AGRI CULTURAL.					Grand Total.
	Males.		Females.		Total.	Males.		Females.		Total.	
	Adults.	Boys.	Adults.	Girls.		Adults.	Boys.	Adults.	Girls.		
Hindús, ...	73,539	43,623	56,823	31,081	205,066	94,345	58,345	84,237	49,834	266,761	491,827
Musalmáns and others,	25,584	16,614	21,312	12,296	75,806	35,361	22,652	34,675	21,871	114,579	190,385
Total, ...	99,123	60,237	78,135	43,377	280,872	129,726	80,997	118,912	71,705	401,340	682,212

There were 1,041 villages in 1865, of which 348 had less than 200 inhabitants ; 285 had between 200 and 500 ; 238 had between 500 and 1,000 ; 106 had between 1,000 and 2,000, and 55 had between 2,000 and 5,000 inhabitants. The towns having more than 5,000 inhabitants were the same as in 1853, except that Budhāna was omitted. With 1865 may be compared the figures of 1872, which are as follows :—

Occupations in 1872.

Religion.	Landowners.		Agriculturists.		Non-agriculturists.		Total.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Hindūs, ...	6,785	4,910	98,516	73,845	168,748	146,146	274,049	224,901
Musal māns, ...	4,931	4,408	32,379	26,199	64,226	58,956	101,536	89,561
Christians, ...	...	...	...	...	23	12	23	12
Total, ...	11,716	9,318	130,895	100,044	232,997	205,114	375,608	314,474

The non-agriculturists numbered 438,111 souls, or 63·48 per cent. of the total population in 1872. The details of the census returns of 1847 are not worth reproduction, but those of 1853 and 1865, as the two first enumerations conducted on uniform principles and with defined objects, should have a place in the district notice. Between 1853 and 1865 the changes in area were very small, consisting chiefly of a few villages transferred to the Karnāl district. The most noteworthy fact, however, is the apparently great diminution in the agricultural population. There is, however, no reason to suppose that this is due to anything but error in classification. In 1872 day-labourers and the mass of the agricultural population were included in the non-agricultural class chiefly because their caste-name denoted a trade.

The following table gives the details per pargana for both the census of 1853 and that of 1865 :—

Pargana.	Hindús.			Musalmáns.			Total population.			Proportion of females to every 100 males.
	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	
Muzaffarnagar. {	1865, 18,738	15,051	33,789	8,406	7,323	15,729	27,144	22,374	49,518	82.42
1853, {	17,597	14,069	31,666	7,419	6,557	13,976	25,016	21,620	46,642	82.45
Baghura, ... {	1865, 18,500	13,963	32,463	5,496	4,951	10,447	23,996	18,914	42,910	78.82
1853, {	17,878	14,447	32,325	5,355	4,711	10,066	23,233	19,158	42,391	82.46
Chartháwal, {	1865, 15,781	11,085	26,866	5,976	4,759	10,735	21,757	15,844	37,601	72.82
1853, {	14,953	11,708	26,661	5,828	4,862	10,690	20,781	16,570	37,351	79.74
Púr Chhapár, {	1865, 13,407	10,715	24,122	3,873	5,279	9,152	17,280	15,994	33,274	92.56
1853, {	12,716	10,163	22,879	4,537	4,243	8,780	17,253	14,406	31,659	83.49
Gordhanpur, {	1865, 7,312	5,793	13,105	825	719	1,544	8,137	6,512	14,649	80.03
1853, {	7,084	5,748	12,832	874	730	1,604	7,958	6,478	14,436	81.4
Jhanjhána, ... {	1865, 15,603	12,744	28,347	4,125	3,771	7,896	19,728	16,515	36,243	83.71
1853, {	16,527	13,638	30,165	4,145	3,831	7,976	20,672	17,469	38,141	84.51
Shámli, ... {	1865, 23,175	20,848	44,023	5,761	5,072	10,833	30,936	28,920	59,856	83.78
1853, {	23,378	23,216	46,594	5,021	4,660	9,687	33,899	27,882	61,781	83.48
Kairána, ... {	1865, 11,174	9,241	20,415	9,084	7,511	16,594	20,258	16,752	37,010	82.89
1853, {	9,511	7,916	17,427	8,291	6,892	15,183	17,802	14,808	32,610	83.18
Thána Bha- wan. {	1865, 15,296	12,501	27,796	8,434	7,992	16,426	23,729	20,493	44,222	86.36
1853, {	17,455	14,680	32,135	9,037	8,888	17,925	26,492	23,484	49,976	88.64
Bidauli, ... {	1865, 8,005	6,164	14,169	4,943	4,167	9,110	12,948	10,331	23,279	79.70
1853, {	8,906	7,069	15,975	6,059	5,166	11,225	14,965	12,235	27,200	81.76
Shikárpur, ... {	1865, 20,703	17,575	38,278	7,035	6,622	13,657	27,738	24,197	51,935	87.23
1853, {	20,977	17,447	38,424	6,872	5,979	12,651	27,649	23,426	51,075	84.72
Kándhla, ... {	1865, 25,090	21,366	46,456	9,102	7,059	16,161	34,192	28,425	62,617	83.13
1853, {	23,891	19,946	43,837	6,626	6,063	12,689	30,517	26,009	56,526	85.22
Budhána, ... {	1865, 15,432	13,467	28,899	6,010	5,592	11,602	21,442	19,059	40,501	88.88
1853, {	15,548	13,062	28,610	6,021	5,391	11,412	21,569	18,453	40,022	85.55
Khátauli, ... {	1865, 17,971	16,191	34,162	6,052	5,429	11,481	24,033	21,620	45,653	83.99
1853, {	18,113	15,006	33,119	5,795	5,437	11,233	23,908	20,443	44,351	85.51
Bhukarheri, {	1865, 15,191	12,575	27,766	4,744	4,449	9,193	19,335	17,024	36,359	83.89
1853, {	14,136	11,615	25,751	4,442	4,225	8,669	18,578	15,842	34,420	85.27
Bhúma Sam- balhera. {	1865, 14,196	12,074	26,269	4,241	3,942	8,183	18,436	16,016	34,452	86.87
1853, {	13,712	11,908	25,620	4,811	4,078	8,889	18,523	15,986	34,509	86.3
Jauli Jánsath {	1865, 12,280	10,622	22,902	6,124	5,517	11,641	18,404	16,139	34,543	87.69
1853, {	11,369	9,866	21,235	5,075	4,961	10,036	16,444	14,827	31,271	90.16
Total, {	1865, 269,852	221,976	491,827	100,231	90,151	190,385	370,083	312,129	682,212	84.34
1853, {	258,751	221,420	480,171	96,003	88,682	182,685	364,769	308,102	672,871	84.46

The census of 1872 shows a total population numbering 690,082 souls and giving 419 inhabitants to the square mile. Of these 498,950 were Hindús, 191,097 were Musalmáns, and 35 were Christians and others not included in the first two classes. There were 883 inhabited villages, giving an average of 0.5 villages to each square mile and 782 inhabitants to each village. The actual classification of villages shows 207 with less than 200 inhabitants; 268 with between 200 and 500; 233 with between 500 and 1,000; 108 with between 1,000 and 2,000, and 54 with between 2,000

Census of 1872.

and 5,000. The towns having a population exceeding 5,000 souls were those before given with the addition of Gangeru and Khátauli. The next table gives the parganah details according to religion sex and age :—

Parganahs.	HINDÚS.				MUHAMMADANS AND OTHERS NOT HINDÚS.				Total.	
	Up to 16 years.		Adults.		Up to 16 years.		Adults.		Male.	Female.
	Male.	Fe- male.	Male.	Female.	Male.	Fe- male.	Male.	Fe- male.		
Muzaffarnagar,	6,948	5,351	11,275	9,298	3,333	2,647	5,370	4,671	26,926	21,962
Baghra, ...	7,323	5,436	11,239	9,652	2,248	1,858	3,341	3,067	24,151	20,013
Gordhanpur, ...	3,010	2,436	3,514	2,885	361	306	502	380	7,387	6,007
Charthawal, ...	5,553	3,920	8,307	7,041	2,072	1,639	3,346	2,956	19,356	15,562
Púr Chhapár, ...	5,252	4,090	7,565	6,510	2,014	1,743	2,936	2,626	18,057	14,969
Jhanjhána, ...	6,284	4,808	9,367	8,091	1,494	1,770	2,447	2,329	19,592	16,498
Shámli, ...	9,833	7,331	15,637	13,728	1,843	1,533	3,215	2,756	30,518	25,318
Kairána, ...	4,495	3,657	6,524	5,869	3,014	3,227	5,850	5,802	20,783	18,045
Thána Bhawan,	5,946	4,387	9,134	7,843	2,144	2,375	4,631	4,868	22,455	19,413
Bidauli, ...	3,113	2,266	4,617	3,694	2,050	1,594	3,117	2,817	12,697	10,371
Shilápur, ...	8,733	6,571	12,567	11,141	2,823	2,432	4,098	3,964	28,221	24,108
Kándhla, ...	11,004	8,406	15,778	13,767	3,341	2,630	4,609	4,804	34,732	29,127
Budhána, ...	5,401	5,155	9,491	8,207	2,707	2,140	3,907	3,567	22,506	19,169
Khátauli, ...	8,066	6,274	12,249	10,367	2,558	2,116	4,063	3,684	20,870	22,391
Ishukarheri, ...	6,603	4,968	9,676	8,129	2,098	1,781	3,309	3,009	21,686	17,887
Bhúma Sambal- hera,	5,990	4,831	8,779	7,687	1,881	1,553	2,788	2,628	19,388	16,602
Jaúl Jánsath,...	5,671	4,457	7,775	6,734	2,716	2,800	3,893	3,551	20,055	17,042
Total, ..	110,165	84,353	163,884	140,548	40,187	33,144	61,372	56,429	375,608	314,474

This table shows that the number of Hindu males in 1872 was 274,049, or 45·1 per cent. of the entire Hindu population; Hindu females number 224,901, or 54·9 per cent.; Musalmán males 101,536, or 53·1 per cent. of the entire Musalmán population, and Mussalmán females 89,561, or 46·9 per cent. The percentage of Hindús on the total population is 72·3 and of Musalmáns is 27·7, or three Musalmáns to every eight Hindús. The percentage of males on the total population is 54·4, and of females is 45·6, whilst the divisional percentages are 54·0 and 46·0 respectively.

The statistics relating to infirmities were collected for the first time in 1872. They show that amongst the total population there were 122 insane persons (49 females), or 1·7 per 10,000 of the population; 13 idiots (2 females), or 0·1 per 10,000; 143 deaf and dumb (42 females), or 2·0 per 10,000; 2,538 blind (926 females), or 36·7 per 10,000, and 227 lepers (23 females), or 3·2 per 10,000. The statistics as to age were also collected for the first time in 1872, and exhibit the following results for the Muzaffarnagar district. The table gives the number of Hindús and Musalmáns according to sex at different ages, with the percentage on the total population of the

Age.

same sex and religion. The columns referring to the total population include the inhabitants of all creeds, but preserve the sex distinction :—

Ages.	Hindús.				Musalmáns.				Total population.			
	Males.	Percentage on total Hindús.	Females.	Percentage on total Hindús.	Males.	Percentage on total Musalmáns.	Females.	Percentage on total Musalmáns.	Males.	Percentage on total population.	Females.	Percentage on total population.
Up to 1 year, ...	11·822	4·3	10·373	4·6	4·539	4·4	4·175	4·2	11·363	4·3	14·549	4·6
Between 1 and 6, ...	35·763	13·0	29·687	13·2	12·935	12·7	11·079	13·0	43·699	12·9	41·367	13·1
" 6 " 12, ...	43·773	15·3	31·191	13·8	15·918	15·6	12·386	13·7	59·693	15·3	43·478	13·7
" 12 " 20, ...	46·566	16·9	35·648	15·8	16·881	15·6	14·254	15·9	61·448	16·8	49·915	15·8
" 20 " 30, ...	52·608	19·1	43·673	19·4	19·457	19·1	17·697	19·7	72·072	19·1	61·373	19·5
" 30 " 40, ...	39·112	14·2	33·229	14·7	14·433	14·2	12·975	14·4	53·550	14·2	46·207	14·6
" 40 " 50, ...	24·526	8·9	22·214	9·8	9·241	9·1	8·637	9·6	31·772	8·9	30·851	9·8
" 50 " 60, ...	13·013	4·7	12·179	5·4	5·412	5·3	4·957	5·5	18·185	4·7	17·166	5·4
Above 60 years, ...	6·806	2·4	6·707	2·9	2·720	2·3	2·861	3·1	9·526	2·5	9·568	3·0

The proportion of Hindu males under twelve to the total Hindu population is 33·3 per cent., and of Hindu females is 32·9 per cent. Amongst Musalmáns the percentages are 31·7 and 31·4 respectively. Taking the quinquennial periods up to 15 years of age, or 0 to 5, 5 to 10, and 10 to 15 years, the percentage of both sexes to the total population is 14·91, 12·5, and 11·3 respectively, or taking females only, the numbers are 15·2, 12·0, and 10·2 per cent. Here, as in other districts of this division, females are slightly in excess of males in the first period and considerably below them in the other two. In the third period males show 12·3 and females only 10·2 per cent. Again, taking the whole population of the same sex and religion only, the proportion of Hindu males of the ages of 10 to 15 to all the Hindu males is 6·9, and of Hindu females to all the Hindu females is 5·6; whilst Musalmáns show 6·8 and 5·5 per cent. respectively. The proportion of Hindu males of the ages from 13 to 20 to the total of the same sex and religion is 15·6 per cent., and of Hindu females is 14·7 per cent.; whilst Musalmáns show 15·4 and 14·8 per cent. respectively. These results support the conclusion arrived at by Mr. Plowden, that the enumeration of females from 10 to 15 years of age is defective.

Distributing the Hindu population, numbering 498,950 souls, amongst the four great classes of the census returns, we have 40,654 Brahmans (18,212 females), 15,470 Rajpúts (6,180 females), 42,199 Baniyas (19,106 females), and all other castes numbered 400,627 souls, of whom 181,453 were females. Amongst the Brahmans 38,323 belonged to the great Gaur tribe of the Gaur division; there were 72 Sanádhs, 384 were Achárajis,

109 were Bháts, 223 were Dakauts, 332 were Kanaujiyas, 441 were Sarasvats, and 155 were Sarwariyas. Besides these clans there were a few belonging to the Bháradhvaj, Gujráti, Kashmíri, Mahárást, Shaivi, and other subdivisions. The Maithila Brahmans form a tribe of the great Gaur division and are found

scattered in small numbers in almost every district.
 Maithils. The tribe has four divisions :—Maithil, Sárátri, Joga and

Chaugola, and is very numerous and powerful in its proper home, Tirhút and the adjoining districts of the Benares division. The Sárasvats are also a tribe

of the Gaur division of Brahmans, and are named after
 Sárasvats. the sacred river Sírāsati, now a dry nála, but once a broad river which watered fertile plains and rich fields in the early home of the Aryans to the west of the Jumna. There can be no doubt that these Sárasvats are one of the oldest of all the Brahmanical tribes, and represent a division which has come down from the remotest antiquity. The subdivisions of the tribe in these provinces are the following :—Báwanjáti Sárasvat, Ashtbans Sárasvat, Shatbans Sárasvat, Panjajáti Sárasvat, Báhari, Bhunjáhi, Kashmíri, Dogare, and Súradvaj. The first of these, as its name implies, includes fifty-two clans; the second has eight clans; the third six clans, and the fourth five clans. The more common subdivisions found in this district are the Kashmíri, Súradvaj, and Báwanjáti. Amongst the clans of the Báwanjáti the following titles occur :—Basúde, Bijara, Rande, Merha, Mustál, Angal, Súdán, and Bastir. The Parásur *gotra* of the Panjajáti subdivision has the title Tikkhe, the Bhárgav *gotra* has the title Kamariya and the Gautam *gotra* has the title Jhingan. Amongst the Ashtbans clans are the Bháradhvaj with the title Páthak; Kásyap called Sori, Gautam called Tiwári, Parásur called Shand, and Suyarniya called Bháradhvaji. Amongst the Báhari clans are the Kishnátri with the title Sárada, Garg with the title Nárada, Sandel with the title Nábha, and Monas with the title Chitrkotiya, besides numerous others. Sárasvats or Sárasúts are numerous in the upper Duáb. In 1872 there were over 6,000 in the district of Dehra Dún and over 2,000 in Meerut. They are amongst the most respectable of the Brahman families, and still, to a certain degree, preserve their ancient simplicity of manner.

The Ráhtís or Bohras are sometimes classed amongst the subdivisions of the
 Bohras. Gaur tribe of the great Gaur division, under the name of Palliwáls, but they are now so completely separated from the Brahmans as a body that they are usually regarded as one of the miscellaneous tribes of Brahmanical origin. Other names for this tribe are Athwariya, Bárhar, and Káinya. These Bohras are immigrants from Márwár, and are called Palliwál from their original seat, Palli. They are the great usurers and pawnbrokers of the upper Duáb, and are a wealthy, pushing unscrupulous race who have made good use of the opportunities afforded by our

courts to obtain possession of a considerable amount of landed property. They are detested for their roguery and trickery, and the derivation of the names by which they are known shows the estimation in which they are held. "The continually revolving nature of their dealings," writes Sir H. M. Elliot, "and monthly visits to each of their debtors, have, with reference to the constant revolutions of the Persian wheel (*rāhat*) and buckets, procured them the designation of Rāhtīs or Rāhatīs." The name Bohra is derived from '*beohār*' or 'trade,' and may be rendered as 'the trader.' The name Athbariya or Athwariya, which signifies 'weekly,' refers to a person who transacts his business weekly, and to the Bohras who collect their interest every week, a practice followed by the Rāhtīs when they first came from Mārwar and settled in these provinces towards the close of the last century. Bārhar similarly refers to the division of the tribe who used to collect their interest every day. The name Kāinya is due to their frequent use of the word '*kāhi*,' 'why,' 'wherefore,' in their daily transactions. Palli in Mārwar was held by a community of Brahmans who invited Shijū and Setrām, the grandsons of Jaichandra, the last Rāthor ruler of Kanauj, to assist them against the Minas and Mairs of the hills around Palli. The Rāthors accepted the invitation, defeated the Minas, and, in reward, received lands in Palli which thus formed the nucleus of their possessions in Mārwar.¹ The Rāthors soon added to their first acquisitions the lands of the Brahmans by the murder of the heads of the community during the *holi* festival. The survivors remained in their ancient home and devoted themselves to commerce, so that in a short time Palli became the great commercial mart of western Rajwāra, electing its own magistrates both for municipal regulations and the arbitration of all matters connected with their commercial pursuits, and having a mint of its own. Subsequently, when Mārwar was devastated by the Muhammadans, the Raja called for a general contribution, which the Brahmans of Palli refused on account of their caste. The Raja was enraged at this and placed a number of their headmen in confinement, and in revenge many of the Brahmans committed suicide, but instead of being terrified at having caused the deaths of so many Brahmans, the Raja expelled them from his territories, and the Palliwāls emigrated to Bikanir, Dhār, Jaisalmer, the Sindh valley, and these Provinces. Sir H. M. Elliot separates the Kāinyas and Rāhtīs from the Bohras, and calls the former an inferior class who "lend money to agriculturists and others in a small way, generally by tens, and for every ten rupees take a bond for twelve rupees, payable by instalments of one rupee per mensem." The Bohras have larger dealings with the higher classes, and, like the Rāhtīs, are eager to acquire possession of profitable estates. There is, however, this difference between the two, that while Rāhtīs will only take money for money, the Bohras are ready to receive

¹ Tod's Rajasthan II. 12; I., 601.

property as well in exchange. In Bombay many have become Musalmáns and form an important section of the trading community. Tod says that the Palliwáls never marry out of their own tribe and give a sum of money for their wives. They worship the bridle of a horse, a custom which leads Tod to identify them with the priests of the Skythian-Palli race. Unlike other castes Palliwáls eat and drink with the Mahábrahman tribe, who accept gifts for the dead thirteen days after death, a practice which is held in great disrepute by all other classes of Brahmans. In this district, during the currency of the past settlement, Bohras have acquired by purchase 7,788 acres of land chiefly in parganahs Muzaffarnagar, Bhukarheri, and Chartháwal.

Amongst the Rajpúts the most numerous tribe is the Chankán (4,998).

Rajpúts.

Next comes the Pundír (4,942), Jhotiyána or Jhatiyána (2,106), Bisen (631), Súrajbansi (625), Polast (329), which is really a clan of the Pundír tribe, Kachhwáha (533), Gaharwár (272), Dhákara (173), Chhonkar (149), Badgújar (167), Baranwár (149), Tomar (105), besides small numbers of the Bais, Bithú-i, Banáphar, Chandrabansi, Gahlot, Gauráhar, Gaur, Jálubansi, Kharg, Ráthor, and Rajwár clans. The Pundírs or Purírs are of the same tribe as those in Saháranpur and form an important element of the Rajpút population in Aligarh, where a colony from Saháranpur made an early settlement. The Bisens claim to be descendants of the same stock from which the Raja of Salempur Majhauri, in the Gorakhpur district, is descended. Those in this district are petty agriculturists, chiefly of the Parásur *gotra*. The Baranwárs are an obscure tribe, probably a *gotra* of some forgotten tribe, and are called after the town of Baran or Bulandshahr. Gaharwárs connect themselves with the dynasty of that clan which once ruled in Kanauj. The Gauráhar are an obscure tribe, here said to be descended from the Chamar Gaurs, and to have some connection with the Ahírs. Gahlots and Chhonkars are noticed under the Aligarh district, Jádubansis under Muttra, Banáphars under Hamírpur, Ráthors under Etá, and Pundírs under Saháranpur. Here, as elsewhere, there are numerous minor castes of obscure origin, many of which have arisen from social differences caused by marriage contrary to caste rule and from breach of caste etiquette. These new castes have by degrees both in number and in influence attained to the position of separate tribes, and have in their turn given rise to fresh subdivisions.

The Jhotiyánas or Chhotiyánas about Jaula are by common consent Kachhwáhas of the original stock and Kasyap *got*, and are probably the same as the Kachhwáhas of the Antarbéd (duáb) who are so frequently mentioned by Chand as the allies of Prithiráj. They are, too, said to have assisted Visala Deva in his invasion of Gujrát in the middle of the eleventh century, and, in any case, must have been amongst the earliest Rajpút colonists of the district. The name Jhotiyána is said to be

Kachhwáhas.

derived from Jhotwára in the Jaipur State, whence they came here, and they once held a *chaurási*, with a Raja of their own, at Tisang. Kachhwáras are also found in Meerut, Bulandshahr, Et'wah, Aligarh, Eta, and Jalaun. To the north-west of the district, close to the Saháranpur border, there is a *chaubisi*

Chauháns.

(or colony of twenty-four villages) held by Chauhán Rajpúts. These villages cluster around Chauhána, the parent village, and are still for the most part in the hands of their founders. The Chauháns trace their origin to Prithiráj, and through him to Sámbar. Near the junction of the Hindan with the west Káli Nadi there is a *chaubisi* of Rajpúts of the Somwál or Sombansi clan and Atri *got* comprising eight villages in this district and sixteen villages in the neighbouring district of Meerut. Their principal village in this district is Inchhanli, and in Meerut is Burladána.

Baniyas chiefly belong to the Agarwál (37,354), Chhoti Saran (1,824), Mahesri (177), Bishnoi (155), Saraugi (1,591), Agrahri, Dasa, Gata, Gindauriya Dusri Saran, Rastangi, Rorh, and Raja-ki-barádari subdivisions. The Dasa is the same as the Raja-ki-barádari, and is a subdivision of the Agarwál division. It obtained the second name from one Ratan Chand Dasa, a resident of Miránpur, who rose to distinction and high office under the Sayyids of Jánsath during the reign of Farrukhsiyár. The Dasas are descendants of a slave-girl of Ugrason and are divided into Dasas and Kadími Dasas. Many of the former are Jainas, but this difference in religion does not prevent them from eating and drinking together or intermarrying. The Bishnoi Baniyas are more a religious sect than a tribe and are recruited from various tribes, including Rajpúts, Brahmans, and Baniyas. The Rorhs have three divisions—the Khattri, Lahauri, and Rorh, and are chiefly *arhats* and *daláls* (or brokers). Mahesris are of the Jaina sect. Agrahris seem to be a mixed caste and wear the sacred thread. They are more numerous in the Benares division than in the upper Duáb, and are divided into several classes, such as the Uttaráha, Pachhawan, Banárasí, Pánchara, Dálámau, Mahuliya, Ajudhiyalási, and Chhednawe. The Rastangis trace their origin to Amethi in Oudh, and are divided into the Amothiya, Mauháriya, and Indrapatiya classes. The Gindauriya and Gata are obscure subdivisions of the Baniya class, of whose origin nothing is known. All through the upper Duáb, the Agarwálas and their divisions—the Pachhain, Puriye, Dakhinádhi, Utarádhi, Churáwale, Jaisalmeriye, Dasa and Panoha—are the most prominent, numerous, active and intelligent portions of the trading community.

Jainas.

The Jainas form one of the most important sections of the mercantile community, and for their influence and wealth are particularly deserving of notice. They allow of

eighty-four *gachhas* or *gotras* in these provinces, the names of which are as follows¹:—

Oswál.	Sád.	Lameen.	Giradhwal.
Srimál.	Dhundiya.	Máhura.	Nikajjala.
Sri Scimál.	Padmavati Panwár.	Golálara.	Khandiya.
Srimáli Pattan.	Jaisala.	Barhanúra.	Parwár.
Porwál.	Golabára.	Mágadhi.	Samaiya.
Khandelwál.	Húmar.	Bahárl.	Jhamaiya.
Palliwál.	Kumanera.	Badgújara.	Chausake.
Agarwál.	Janachera.	Ghurlawál.	Dusake.
Lohiya.	Grihapati.	Bagholwál.	Asethi.
Jaiswál.	Naináwár.	Sanrati.	Bákuse.
Bhábhara.	Kharana.	Murlawál.	Golarághare.
Lamechu.	Burhela.	Chitoriya.	Putaniya.
Goláára.	Mahelwál.	Banckpol.	Durhiye.
Thadiya.	Addhowál.	Barhgl.	Ramniya.
Bagherwál.	Pukviwál.	Puriya.	Barajátiya.
Mahesri.	Poswál.	Bhuriya.	Sripála.
Golapurab.	Kharwál.	Mewátiya.	Biswátiyála.
Dasa.	Marewál.	Ayodhyabási.	Khaola.
Gújar Gaur.	Vanhiya.	Karnágara.	Barchwál.
Gola.	Nema.	Charnágara.	Kanaujya.
Mudela.	Girnárwál.	Kathural.	Kapúrjút.

Most of those *gachhas* do not eat together, nor can they intermarry with each other. Much has been written about the Jainas, both in India and in England, by Colebrooke, Buchanan, Stevenson, Ward, Delamaine, Franklin, Wilks, Erskine, Dubois, and others, but the best and most useful account of the sect in Upper India is that given by H. H. Wilson, from whose notice I shall give a short account of their tenets and position. I have made several efforts to obtain some local information regarding their customs in Meerut, but failed to gather any but the vaguest statements which were entirely worthless for record.² The Jainas are divided into two principal divisions, the Digambaras or sky-clad, *i. e.*, naked Jainas, and Svetámbaras or white-robed. The teachers of the former division, however, no longer go naked, but wear coloured garments, and confine the disuse of clothes to the time of eating, when they throw off their wrapper when receiving food from their disciples. Besides these two great divisions there are several minor ones, but the differences in doctrine and practice are trivial and of little import. Amongst them mention may be made of the Múla Sanghís, who use brushes of peacock's feathers, wear red garments and receive alms in their hands: the Kashta Sanghís, who make their images of wood and employ brushes of the tail of the yák; the Torah Panthís, Bis Panthís, Bhishana Panthís, Dundiyas and Samvegís. Besides these denominations all Jainas are divided into Yatis and Srávakas, the former of whom lead a religious life, depending upon the alms of the latter. Many Yatis are

¹ These names differ slightly from those given in H. H. Wilson's list, and are taken from a "Barnanā'a" published in Benares.

² See H. H. Wilson's works (Ed. Rost.) I., 276, in which a summary of the bibliography of the Jaina literature is given. He also refers to Colebrooke's Essays 243, 237; Catalogue of the Mackenzie MSS.; Trans. R. A. Soc. London, I., 418, 520, 531; II., 270; Calc. Quart. Mag. Ward's Hindoos; Buchanan's Travels in Mysore; Wilks' Historical Sketch of the South of India; Erskine's Journal, Bombay Literary Society, &c. Their great place of pilgimage in the Upper Diáb is Hastinápúr.

engaged in trade or possess *maths* and *mandirs*, but they never officiate as priests, leaving this to a properly trained Brahman. The Yatis are sometimes collected in *maths*, called by them *poshdás*. The secular Jainas in these provinces worship almost exclusively Parásrámi (Parsvanáth) and Mahábír (Mahávira Svámi or Varddhamána) the twenty-third and twenty-fourth Tirthankaras of the present age. Their temples generally consist of an oblong or square room surrounded by an open portico. On one side is an altar-piece of several stages, and in the centre of the upper tier sits the principal deity supported by two other *arhats*, while the remainder are ranged upon the lower tiers. The spire is usually arranged in compartments like loaves and is surmounted by a pole resembling a flag-staff which terminates in a gilt knob. The Jaina temple at Háthras is a particularly fine building.

The Jaina works in the various languages spoken by them are exceedingly numerous and voluminous. Like the Hindús, they have Literature and tenets. a series of works called Puránas, giving the legendary history of their Tirthankaras or deified teachers; such are the *Adi*, *Uttara*, *Chámúnda Ráya* and *Chaturvinsati* Puranas. Other classes of works are the *charitras*, which are generally devoted to the marvellous history of some Tirthankara or other holy personage, as the *Pájjapáda Charitra*, &c. The Jainas have also their writers on philosophy, grammar, astronomy, medicine, physics, and mathematics, so that, altogether, their literature affords ample materials for a description of their tenets and religious customs. Mr. H. Wilson gave a list of over one hundred Jaina works either in his possession or in the library of the Sanskrit College in Calcutta, and mentioned the existence of a number of works called *Siddhantas* and *Agamas*, which are to the Jainas what the Vedas are to the Hindús. Hemachandra, a Jaina writer of the twelfth century, calls the principal authorities of a sacred character acknowledged by the Svetámbaras, *Angas*, of which there are eleven, or with a supplementary division, twelve. With these are connected the *Upángas* or inferior *Angas* and the *Párvas*, which are so called because they were drawn up before the *Angas*. These last are fourteen in number, and treat of the chief tenets of the sect on moral subjects. These writings have never yet been thoroughly examined, and only very small portions of them have been edited and explained, so that our knowledge of the religious history of this important sect is as yet far from complete.

The tenets which chiefly distinguish the Jainas from the Hindús are, Tenets of the Jainas, briefly, their denial of the divine origin and infallibility of the Vedas; the reverence paid by them to the saints who have by their self-denial and austerities attained to a position superior even to the gods, and their extreme tenderness of animal life. Their disregard of the authority of the Vedas is common to the Jainas with the followers of Buddha, and involves a neglect of the rites which they prescribe.

In fact it is these rites which necessarily include some disregard of animal life that impugns the sanctity of the Vedas themselves in the eyes of the Jainas. The worship of holy men is also common to both Jainas and Buddhists. The latter out of their celestial hierarchy usually confine their devotions to seven Buddhas; the Jainas extend this number to twenty-four, and enumerate twenty-four of their past age or *Avasarpini*; twenty-four of the present age and twenty-four of the future. The twenty-four of the present age are:—

No.	Name.	Symbol.	No.	Name.	Symbol.
1	Adināth or Varishabha,	Bull.	13	Vimala ā'h,	Boar.
2	Ajitanāth,	Elephant.	14	Anantanāth or Ananta-jita,	Porcupine.
3	Sambhū ā'h,	Horse.	15	Dharmā ā'h,	Thunderbolt.
4	Abhainandanāth,	Monkey.	16	Santā ā'h,	Antelope.
5	Sumatināth,	Chakwa-chakwi	17	Kanthā ā'h,	Goat.
6	Supādma ā'h or Padma-prabhu.	Lotus.	18	Arā ā'h,	Fish.
7	Suparsvanāth or Suparasa.	Sivāstika.	19	Mallā ā'h,	Pinnacle.
8	Chandraprabhu,	Crescent moon.	20	Munisuvrata,	Tortoise.
9	Pushpānta or Suda-ā'h.	Alligator.	21	Namā ā'h,	Lotus with stock.
10	Sitā ā'h,	Tree or flower.	22	Nemmāth,	Shell.
11	Sri Ansu ā'h or Sriyasa,	Rhinoceros.	23	Parasvā ā'h or Paras-ā'h.	Serpent.
12	Vasupadya or Vasupujya.	Buffalo.	24	Vardhamāna or Mahābīr.	Lion.

But of these the twenty-third and twenty-fourth, or Parasnān and Mahābīr, have superseded all their predecessors and engross the devotions of the Jainas of the present day. The generic names applied to these saints show the Jaina notions of their attributes. The saint is *Jigatprabhu*, or lord of the world; *Tīrthakara*, or one who has passed over (*tiyate anena*), that is, the world compared to the ocean; *Kevali*, or the possessor of *kevala*, or spiritual nature; *Arhat*, or one who is entitled to the homage of gods and men; and *Jina*, or the victor over all human passions and infirmities. Besides these general epithets there are others of a more specific nature referring to the form of the body, voice, hair, nails, &c., and his superhuman powers. Each of the twenty-four Jinas, too, are distinguished from each other in colour, stature and longevity. Two are red, two white, two black, and the rest are of a rich yellowish brown. Each, in order, decreases in size and age until the last but one Jina, like the last Buddha, lives only one hundred years, and the last Jina seventy-two years.

Mr. H. H. Wilson gives a summary of the life of Mahāvīra or Mahābīr from the *Mahāvīra Charitra* of Hemachandra. The first birth of Mahābīr took place at an unknown time as Nayasara, the head-man of a village in the country of Vijaya. His next was as Marichi, the grandson of the first Tīrthankara Rishabha. We next find

him as Visvabhūta, prince of Rājagriha; then as Vasudeva, the foe of Hyagriva. He then successively became a lion, a Chakravartti Raja, the devotee Nandana, and finally the Tīrthankara Mahāvīra, born in a family of the line of Ikshvāku at Pavana in Bharata Kshetra. Mahāvīr early adopted an ascetic life, following the tenets of the Digambara division, and living chiefly in Behār and the adjacent provinces. During his wanderings he visited Rājagriha, Srāvasti, Vaisālī and Kausāmbhī, and in the last place attained to *kevala* or spiritual knowledge, the only knowledge. He then proceeded to Apāpauri in Behār, where he began his instructions and secured many disciples from among the Brahmans, the most celebrated of whom was Gautama or Indrabhūti, whom some identify without reason, with the Gautama of the Bauddhas. From the conversations between Mahāvīr and his disciples it would appear that they recognised the vital principle as a real existence animating, in distinct portions, distinct bodies, and condemned to suffer the consequences of its actions by migrations through various forms. "The reality of elementary matter is also asserted, as well as of gods, demons, heaven and hell. The final state of the vital and sentient principle is left rather obscure, but as its actual and visible exemption from human acts is taught, it follows that it is exempt from their consequences or repeated births in various shapes, and, therefore, ceases to be in any sensible or suffering form."

Mahāvīr, then, attended by his followers, wandered about to various places disseminating the Jaina tenets and making numerous converts. He again came to king Sasānika of Kausāmbhī, in the modern district of Allahabad, and remained with him many days. Thence he returned to Apāpauri with a following of Sādhus and Sādhvis, or holy men and women; Sramanas, or ascetics versed in the fourteen Pūrvas; Aradhijnānis, or those who know the limits or laws; Kevalis, or those detached from acts; Manovits, possessors of intellectual wisdom; Vadis, controversialists; and Srāvakas, the male laity. Mahāvīr died at Apāpauri on the day of the new moon of Kārttik, in the seventy-second year of his age. In a passago in his life it is prophesied that when 1669 years have elapsed from the death of Mahāvīr, Kumāra Pāla of Anahilla Pattan in Gujrat should become a convert to the worship of Jina. The conversion of Kumāra actually took place about 1174 A.D., so that the death of Mahāvīr, according to Hemachandra, must have taken place about 495 B.C.; other Jaina authorities from the south of India give the date as 663 B.C., and some from Bengal as 636 B.C.

The leading tenets of the Jaina belief may now be briefly described. They
 General view of Jaina belief. do not acknowledge a first cause, nor do they admit of soul or spirit as separate from the living principle. All existence is divisible into—life (*jīva*) or the living principle, and inertia (*ajīva*), or the various modifications of inanimate matter. Both

are uncreated and imperishable. Again, all objects are arranged under nine *tattwas* or categories, truths or existences :—(1) *jīva* or life in its various forms subdivided into those with mobility as animals, men, &c., and those without, as the products of the four elements, plants, &c. (2) *Ajīva*, or objects and properties devoid of consciousness and life. (3) *Punya*, or good, whatever is the cause of happiness to living beings. (4) *Pāpa*, or ill, as opposed to the preceding. (5) *Āsrava*, or the sources from which the evil acts of living beings proceed, including the organs of sense, passions, evil acts, evil pursuits. (6) *Samvara*, which is that by which acts are collected or impeded, such as attention, endurance, secrecy, &c. (7) *Nirjara* is the religious practice that destroys mortal impurities or penance. (8) *Bandha* is the integral association of life with acts as milk with water, fire with tow, &c.; and (9) *Moksha*, or the liberation of the vital principle from the bonds of action. “From the details of these nine *tattwas*,” writes Mr. Wilson, “the whole Jain system may be collected, but the form only the text on which further subtleties are founded, and they leave the end and scope of all the doctrine or the attainment of ultimate liberation singularly indistinct. The *moksha* or *nirvāṇa* of the Jains is exemption from the incidents of life, and, above all, from the necessity of being born again; but in what state the living principle subsists after it is so exempted does not very satisfactorily appear.” In one state, indeed, the bodily individuality remains, and in others (the Siddhas) the pure existences correspond with our notions of spiritual existences having an impassive and inappreciable form. Mr. Colebrooke observes :—“It is not annihilation but unceasing apathy which they (Jainas and Bauddhas) understand to be the extinction of their saints and which they esteem to be supreme felicity worthy to be sought by practice of mortification as well as by the acquisition of knowledge.”

All Jainas believe in the essential principles declared in the *tattwas*, but there are some differences in the practices of the Svetāmbaras and Digambaras, and in the duties of the lay and religious orders. The Svetāmbaras decorate the images of the Tīrthankaras with ornaments of gold and jewels, a practice in which they are not followed by the Digambaras. The former say that there are twelve heavens and sixty-four Indras, while the latter increase the number of heavens to sixteen and the number of deities to one hundred. The Svetāmbaras allow their spiritual guides to eat out of vessels, while the Digambaras feed their preceptors with their own hands. The Digambaras deny that the brush, waterpot, &c., are essential to the character of an ascetic, and they assert that no woman can obtain *nirvāṇa*, and that the *Angas* are not the work of the immediate disciples of the Tīrthankaras, but of subsequent teachers or Achāryas. The Yatis or clerical section of the Jainas are expected to follow a life of abstinence, taciturnity and continence, while the Srāvakas or lay portion worship the saints and all holy men. They all hold

that there are five great duties (*mahāvratas*): refraining from injury to life, truth, honesty, chastity and freedom from wordly desires: four great merits (*dharma*s), liberality, gentleness, piety and penance; and three sorts of restraint: government of the mind, body, and tongue. To these some minor instructions of a formal nature are added as purificatory and ceremonial. On the whole, the system is calculated to produce a quietism which renders the believer regardless of what may happen both here and hereafter.

The system of worship is simple. A Yati may dispense with ceremonial observances, and a lay Jaina need only visit the temple once a day, walk round it three times, bow to the images of the Tīrthankaras, and offer some flowers or fruit with a *mantra* such as the following: —“*Namo Arihantānam, Namō Siddhānam, Namō Aryānam, Namō Upājyānam, Namō Loen Sabba Sadhūnam.*” “Salutation to the Arhats, Siddhas, Sages, Teachers, and to all the holy, devout persons in the world.” A morning prayer is also repeated: —“*Ichchhāmi khama samano bandiyoṇjo manjāye nīsidye, māthēna vandāmi.*” “I beg forgiveness, O Lord, for your slave; whatever evil thoughts the night may have produced, I bow with my head.” A portion of some holy book is then generally read by a Yati, after which the worshipper proceeds to his home. The priest and attendant on the images is a Brahman. The Jains do not deny the existence of the Hindu gods, and both Devi and Śārasvatī are worshipped by them in these provinces, in subordination, however, to Parashram and Mahāvīr. The only rites followed on births are the marking the top of the head with perfumes and sandal twelve days after birth. Marriage and cremation ceremonies are much the same as with Hindūs, except that the Vaidik *mantras* are omitted. Parasnāth and Pāpāpurī in Bengal, mount Abu in Ajmer, and Girinār in Gujrat are the great Jaina shrines. Their holidays commemorate events in the lives of their saints, but they also observe the Basant-yātra, Sripanchami, and the second, fifth, eighth, eleventh and twelfth days of the lunar month. On these days no new work should be commenced, no journey should be undertaken, and fasting and continence should be observed.¹

The following list gives the names and the numbers of “the other castes” of the census returns arranged in alphabetical order, and includes all the Hindu castes which have not been placed under the previous three divisions. The classification appears to be very imperfect, for there are many clans given here which appear to be mere *gots* of

¹ I must refer to Mr. Wilson for his note on the origin of the Jain faith (Works, I, 328) and its connection with Buddhism. He writes: —“That it is the most recent of all the systems pursued in Hindustan is rendered highly probable by the extravagances in which it deals, by the doctrine it opposes to those of all other schools, and by the comparatively recent date of many Jain authors of celebrity and of monumental relics, but at what period it actually took its rise it is not easy to determine.” He admits them to be a distinct sect ten or twelve centuries ago, but questions their being of any note or importance at a much earlier time.

clans really belonging to the Brahman, Rajpút and Baniya subdivisions, such as Boliras, Dhusars, Chauháns, Jaiswárs, &c. :—

Aheriya, ...	47	Jaiswár, ...	25	Patwa, ...	199
Ahír, ...	568	Ját, ...	66,759	Ramaiya, ...	15
Bangar, ...	10	Juláha, ...	9580	Rangar, ...	5
Banjára, ...	3,451	Káchhi, ...	193	Rawa, ...	124
Barbia, ...	10,461	Kahár, ...	40,452	Riwári, ...	37
Bawariya, ...	610	Kalál, ...	1,774	Saisi, ...	1,163
Bhaddi, ...	384	Kamboh, ...	1,004	Saini, ...	16,485
Bhand, ...	11	Kanjar, ...	48	Siál, ...	1,578
Bharbhúnja, ...	1,985	Kánpri, ...	36	Shoragar, ...	26
Bhát, ...	1,140	Káyath, ...	853	Shutarban, ...	20
Bohra, ...	630	Khákrob, ...	26,726	Sikh, ...	14
Chamár, ...	96,921	Khaíf, ...	1,583	sonár, ...	4,250
Chhípi, ...	1,594	Khatti, ...	908	Sud, ...	6
Chauháns, ...	201	Koli, ...	649	Tugá, ...	11,947
Dabgar, ...	1	Kunhár, ...	12,966	Tamoli, ...	24
Darzi, ...	1,803	Kúrmí, ...	15	Teli, ...	16
Dhanak, ...	189	Kuzahgar, ...	15	Thathera, ...	181
Dhobi, ...	790	Lodha, ...	11,18	Vaishnu, ...	81
Dhuna, ...	80	Lohár, ...	43,83	Bairági, ...	620
Dom, ...	41	Miumár, ...	522	Barwa, ...	124
Dhusar, ...	9	Máli, ...	7,965	Fakír, ...	636
Gadahia, ...	27	Malláh, ...	122	Gosháin, ...	1,193
Gadaris, ...	13,107	Meo, ...	1	Jogi, ...	9,659
Ghosi, ...	1	Mochi, ...	233	Gúrkha, ...	2
Gola, ...	157	Nat, ...	456	Goud, ...	11
Gújar, ...	24,899	Orh, ...	6,874	Purabiya, ...	70
Hajjám, ...	8,448	Pási, ...	2		

The Banjáras are scattered throughout the district in small colonies and are now almost entirely tillers of the soil ; as cultivators they are still very backward, and in their small imperished settlements, carts are only now beginning to come into use.

The Bawariyas (Bhowreeaks) or Bauriyas or Bhauriyas claim descent from Rajpút fathers and trace their origin to Bikanír. They were probably included amongst the predatory tribes inhabiting the hill country south of Dehli, mentioned by the Muhammadan historians under the generic name of Mewáts. The branch that ultimately made its way into the Duáb is said to have sojourned for a time at Lálki, west of the Junna, and appears to have first attracted attention by its wanderings in this direction about a hundred years ago during the decline and downfall of the empero. They say that they were originally Rajpúts and explain their fall from their high estate as follows :—“Once upon a time, their remote ancestor, Amr Singh, a mighty hunter of the genuine Chauhán stock, a resident of Márwár, went out for a day's sport in the jungle. A deer passed, so he drew his bow and let fly an arrow, but as bad luck would have it, it missed the mark and hit Sri Thákur (apparently the Bauriya representation of the ‘Supreme Power,’ Bhagwán) who happened to be reposing at the foot of a tree. Sri Thákur, smarting with pain, incontinently cursed him, calling him ‘*bauriya*’ or ‘*báuri*’ (synonymous, it appears, with ‘you stupid oaf’),¹ and added a pious wish that he might never have a roof to cover his head with. Amr Singh's fault was visited upon

¹ From a note by Mr. G. Williams, C.S., and the official reports.

the heads of his children, fourteen in number, seven daughters and seven sons, who gave their names to the seven *gots* of the Bauriyas, *viz.*, Koli, Parwár, Solankhi, Debás, Chauhán, Dhandál, and Badhiára. Two other *gots* peculiar to the Panjáb are the Cháran and Dhandháre. In marriage the only prohibited *got* is that of the father, and *kardo* is prevalent. Others say that in the olden time two notables, brothers, presented the king of the period with one of their daughters at a darbár. The potentate, being exceedingly delighted, told them to ask for any favour they might wish. The one with prudent foresight demanded a substantial *jágr* of land; the other, a careless sort of fellow, simply asked to be allowed to do whatever he pleased and dispose of his time as seemed good in his own eyes. He accordingly became a thief and founded the Bauriya community. The sun (Suraj or Naráyan) is a universal object of worship with all Bauriyas, but each *got* also has its special deity. For instance, those of the Koli *got* adore a demon called Dhera Deota, whose shrine is at Chítar; the Chauháns worship the *devi* of Jawálamukhi; the Dhandháls, Kála Dás, who is probably identical with the Kála Bába of the Chamás; and the Badhiáras Nar Singh, the equivalent to Naráyan, whom the Parwárs, Solankhis, and Debás prefer to call Gosháin. They naturally regard the Brahmans with becoming reverence, but any drunken Bairági does equally well for a *guru*, if not better. Still the birth of a child is celebrated by a distribution of alms to the Brahmans whenever possible. At the time of betrothal, the intended bridegroom's father has to pay Rs. 7 to the girl's father, and marriages are celebrated with feasting and presents of ornaments to the bride at a cost of from Rs. 20 to Rs. 100. A widow invariably marries again if she possibly can, and no restriction is placed upon divorce. No food whatsoever is prohibited, and their social system is, in short, that of primitive savages."

The following is a list of some of the peculiar words used by them :—

Bread, ...	... <i>Ták or roto.</i>	Knife, ...	... <i>Churyán.</i>
Man, ...	... <i>Mánkho.</i>	Sword, ..	... <i>Turyár.</i>
Woman, ..	... <i>Manshi.</i>	Sleep, ...	... <i>Khúigyon.</i>
Body, ...	... <i>Wáliya.</i>	Die, ...	... <i>Marigyon.</i>
Girl, ...	... <i>Kuwáni.</i>	Horse, ...	... <i>Ghero.</i>
Mother, ...	... <i>Ái</i>	Buffalo, ...	... <i>Bhínkh.</i>
Father, ...	... <i>Agá.</i>	Bullock, ...	... <i>Dhándho.</i>
Son, ...	... <i>Díkra.</i>	Cloth, ...	... <i>Lágron.</i>
Daughter, ...	... <i>Díkri.</i>	Bread, ...	... <i>Dhádhi.</i>
Food, ...	... <i>Khaildi.</i>	Eyes, ...	... <i>Dhola, ankhhi.</i>
Drink, ...	... <i>Páldhon.</i>	Face, ...	... <i>Báton.</i>
Eat, ...	... <i>Khaildhon.</i>	Feet, ...	... <i>Golo.</i>
Walk, ...	... <i>Hindon.</i>	Legs, ...	... <i>Godo.</i>
Plough, ...	... <i>Hulh.</i>	Head, ...	... <i>Mándh.</i>

The history of the experiment commenced by Mr. S. N. Martin, C. S., with a view to the reformation of this tribe by locating them as cultivators in the villages of Khánpur, Allahuddínpur, Kheri, &c., in parganah Bidauli, has been the subject of many reports and much correspondence. Inquiries regarding the Bauriyas began in 1855, when Khairuddín

Ahmad found that a very large number of men, known as Delhiwál Bauriyas, were settled in villages in this and the Saháranpur district under separate and several leaders. These gangs thrived under the protection of the zamíndárs of the villages in which they lived. Every year at the close of the rainy season they left on thieving excursions for different parts of India, travelling even as far as Calcutta, Indore, and other distant places in search of plunder. Their practice was confined almost entirely to the plunder of tents and carts laden with grain and merchandise, and they never attempted robbing by open violence or resorted to force except under necessity for defence or escape. They were, however, very successful, because very expert in cutting entries into tents and abstracting parcels or bales from the bullock-train or other carts. It was also found that the owners of their villages helped them by providing food, and even the luxuries as well as the necessities of life for the families of those who had gone on long excursions. They not only did this but were ever ready to give evidence as to character in order to refute accusations and to give security for good behaviour where such was demanded. In return for the protection thus afforded they received high interest for their advances and an inconsiderable share of the plunder. The administrative measures which ensued were stopped by the mutiny, and again in 1863 inquiries were set on foot with similar results.

A colony was then established by Mr. Martin in parganah Bidauli consisting of 1,200 persons, of whom 356 were adult males. This was at first placed under the supervision of Sayyid Mahdi Hasan Khán, an Honorary Magistrate and powerful landholder, resident in the parganah, and about the close of the year 1863, a special police, mainly composed of Bauriya constables with a picked inspector at their head, was posted in the colony for stringent supervision. The first year was an unfortunate one, for the seasons were unfavourable, and in consequence desertions soon took place. Cultivation, too, was unpopular in spite of the inducements offered, viz., in the first year, of holding without rent; in the second year, of paying only two annas per bigha; in the third, four annas; and in the fourth, the maximum of eight annas was reached. It is not to be wondered at that the Bauriya, combining in himself the simplicity of a Bedouin with the dexterity of an English peacher, and from his earliest youth taught by precept and example to live by plunder, should naturally not only become an adept in the art of thieving but also acquire a keen relish for a predatory life. For generations he neither would nor could give up his hereditary calling, and both antecedents and an utter unfittedness for any trade has made the Bhauriya boy, a thief and the Bhauriya girl, a prostitute. The colony soon showed signs of dissolution. Antagonism sprang up between the police and the zamíndár, and, in 1866, the Bauriyas rose *en masse*, and were it not for the good sense and prompt action of the local authorities, the results would have been very serious. In 1870 the numbers had dwindled down

to 704 souls, of whom only 150 were adult males, and in 1875 the numbers again rose to 905. At the close of 1873 the colony was brought under the provisions of Act XXVII. of 1871 (the Criminal Tribes' Act), and the Bauriya constables were replaced by a force which now comprises one sub-inspector, two head-constables, two Bauriya informers, and seven *chankidárs*, at a cost of Rs. 258 per month. The great difficulty encountered is how to prevent desertions. During 1874 these were numerous, and were occasioned by the arrest of a leader, *Ohhatarua*, who confessed his crimes and implicated many of the residents, and by one *Nandwa* recruiting a gang for an expedition. There is no provision in the law authorising the prevention of desertion, and to this is to be attributed, in a great measure, the large number of desertions, which numbered seventy-five in 1874. At the same time ninety-five persons voluntarily returned to the colony, and altogether there is reason to be satisfied with the progress made towards improving the character of the Bauriyas. Mr. Martin's experiment was eminently philanthropic even if utopian in its design, and in respect of the objects aimed at entirely worthy of the attention of Government. The task of supervision is a wearying, thankless one, but this must be thoroughly done and strictly adhered to before any permanent results can be hoped for. As it is, it has been shown that much improvement can be effected by the strict application of the rules already in force.

The principal clans of Tagas in Muzaffarnagar are the Gandrán, Gaur, Pachaulán, Bikwán (said to have come from Bikanér), Nímtán, Bhardwár, Jadwán, Rasdán, and Bháradhvaj. The Gandrán prevail in Budhána and its vicinity; the Pachaulán in Shikárpur; the Bikwán in Púr Ohhapár; the Nímtán and Bhardwár in Chartháwal, the Rasdán in Thána Bhawan, and the Bháradhvaj in Baghra. Most of these names seem merely to be the titles of the *gots*: thus Gandrán is the title of the *Vasisht got*, Pachaulán of the *Bachas got*, and Nímtán is the title of the *Gautam got*. The last *got* are said to have originally held Kasauli on the left bank of the Hindan, and now a Pundír colony, and were in possession of a *bárah* of villagos until lately. Gaur Tagas of the *Garg got* once held half Khátauli. The Bikwáns, also, held a *bárah* in Púr Ohhapár, and say that they came thero with the Gújars, with whom they are still on the most friendly terms. The Tagas give the same story of their origin that they tell in Meerut, how that on the death of Parikshit in a contest with the serpents, his son Janamejáya, returning victorious from Takshasila, caused a great snake sacrifice to be made, in which the Tagas assisted and in reward received grants of land, on account of which they abandoned their Brahmanical occupations and took to agriculture: hence their name *Taga* (from '*tyág dena*,' 'to abandon'). On this legend Sir H. M. Elliot remarks:— "The extent to which this tradition of the serpent sacrifice (*sarpasatra*) has spread is very surprising. Here we not only have it preserved

by the common people of the north-west, the very scene of the operation, but in inscriptions and legends from distant parts of India. Thus in the 'Asiatic Researches' (Vol. IX.) we have an inscription from a copper-plate found at Bodnor, which purports that Janamejáya made a progress to the south and to other quarters, for the purpose of reducing all countries under his dominion, and performed a sacrifice for the destruction of serpents at the confluence of the rivers Tangabhadra and Haridra, at the time of a partial eclipse of the sun. Having completed the sacrifice, the king bestowed gold and lands on certain Brahmans of Gautama Grāma,—a name evidently of Buddhist origin. Though the genuineness of this monument is distrusted by Colebrooke and Colonel Mackenzie: they both concur in thinking it no recent fabrication. If it is forged, it must of course have been drawn up in conformity with notions and traditions generally current on the spot. Again, Stirling ('Report on Orissa,' p. 25) says that the Brahmans of Agrahat, eight miles north of Katak (Cuttack), state that the spot was visited by Janamejáya during his progress over India with all the feudatory princes of the country in his train; and they 'point out the spot where he performed the sacrifice for the destruction of the serpents.' See also 'J. A. S., B.,' September, 1837. It can scarcely be doubted that those serpents, for whose annihilation so much trouble was taken, were Takshak Skythians of the Buddhist persuasion, and the chief supporters of that religion. From the time of the great war, when we find them already in the north-west, to about 500 B. C. they extended their conquests in India; and, as they had a serpent for their national emblem, they were known as the Takshak or serpent race. There can be no question, also, that the early legends of Persia are to be interpreted with this key, and that the voracious snakes of Zahhak were hordes of barbarous Skythians from the north." All through these provinces local tradition relates scenes in the royal progress made by Janamejáya with his victorious army after the defeat of the great snake race.

In the *Mirat-i-Sikandari*, speaking of the Ták race in the Panjáb, the author gives a derivation of the name very similar to that given by the Tagas for theirs. He writes:—"Ták and Khattri were brothers; one of them took to drinking, and the Khattris expelled him from their tribe, and an expelled person is, in the Indian language called '*tyági*.' From that time the customs, laws and religion of the Khattris differed from those of the Ták." The great tribe of Ták or Takshak, according to Tod, was one of the thirty-six royal races and of Skythic origin. The period of their first great invasion of India occurred about six or seven centuries before Christ, under their leader Sahesnág, and was nearly contemporaneous, according to Tod, with the appearance of the twenty-third Buddha, Parismáth, whose symbol is that of the race he accompanied, the serpent. His doctrines spread to the remotest parts of India, and the princes of Balabhipura and Anhalwára became followers

of Buddha. Memorials of the bloody wars in which the invaders engaged exist. They invaded Magadha and held its throne for ten generations, and the Raja of Sirgúja still bears the lunettes of the cobra on his shield as the sign of his lineage. The Nágas gave their name to N'gpur in Central India and Nágpur in Garhwál, and it is believed that many of them were converted to Hinduism and that to these converts the term Agnikula (fire race) is properly applied, as signifying their spiritual regeneration.¹ Sir H. M. Elliot thinks that this regeneration must have taken place some three or four centuries subsequent to the great snake sacrifice, the object of which had evidently not been fulfilled, for Astik, the holy man who interposed in behalf of Takshak (brother of the Adityas) and Vásuki (king of the Nágas of Pátála) is said to have been the son of Takshak's sister, so that intermarriages between the Aryans and the Skythians were not unknown, and a powerful remnant was spared. There are frequent allusions to the Nágas in tradition, the Mahábhárata and Puránas. Tod notes that there are numerous ancient inscriptions in Páli "of the race called Tusta, Takshak and T k, relating to the tribes, the Mori, Pramara, their descendants." Takshak and Nága are synonymous terms for the snake, and Takshak for the great Nágbansi race, of which there are representatives still in existence in these provinces.

The Mahábhárata mentions the Nágas as inhabitants of the Khándava² forest and describes their resistance to the Pándavas, who burned the forest to enlarge their new settlement of Indraprastha. Subsequently Arjuna had an intrigue with Ulúpi, the daughter of Vásuki, who resided near Hardwár, and from the entire tenor of the legends concerning the Nágas we must suppose them at this early age to be the descendants of the aboriginal inhabitants, and probably of Turanian origin, and that they were hateful to the Brahmans as being infidels and aliens. The Káyaths ascribe their origin to the union of the great king Ohhatar-gupta with a Nága damsel, and the Agarwála Baniyas are descendants of the marriage of king Ugrasen with the daughter of Vásuki. In the Puránas³ the great river Narmada is said to be a sister of the Nága, and frequent allusion is made to the intercourse of mortal heroes with the daughters of the serpents (Nága kanya). Tod connects the Takshaks and Nágas with the Parotake, the mountain Ták, who were found by Alexander inhabiting the Paropamisian range, and there can be no doubt that Takkasila or Taxila, also visited by Alexander derived its name from the Takkas. Cunningham adduces the curious custom in Taxila mentioned by Q. Curtius and again by Fah-Hian (in A.D. 400) of entertaining guests for three days and then obliging them to depart, to show that the same people occupied the country around Taxila from the time

¹ See Tod's Rajasthan, I. 93; Beames' Elliot, I, 106; Cunningham Arch. Sur. II. 6; and Ferguson's Snake Worship.

² The northern half of the present Meerut Division formed a part of the Khándava forest or Khande ban.

³ Hall's Wilson's V. P., III., 282.

of Alexander to that of Fah-Hian, a period of seven hundred years. The country, too, immediately adjoining Udyāna, which itself marched with Taxila, is still called Tāk-Banu or Banu-Tāk. Both Tod and Cunningham connect the name Attak, which was first imposed by Akbar, with the Tāk tribe. The old name was Tankūr, or in Arabic Et-tankūr, which suggested the form A ttak, meaning 'obstacle' to Akbar as Parshāwar suggested to him Peshāwar, 'the frontier town' and Bāgpat gave him the idea of 'Bāghpat.' In A. D. 900 we find the district of Takka-desa forming a part of Gurjjara-desa in the Chaj duāb when Sankaravarman of Kashmīr annexed it to his own dominions, and it is there that the Takkas proper are found to the present day. Further south, Tod makes mention of a Tāk chief in Asīrgarh in the twelfth century, and two centuries later Sarang Tāk, the last great chief of the race, turned Musalmān, and his son became the first Muhammadan governor of Gujrat under the name of Muzaffar Khān. These Takkas played an important part in the history of Kashmīr, where they ruled for two centuries. Altogether there is some ground for connecting, with Sir H. M. Elliot, the Tagas with the Takkas, and these latter with an early Turanian race who had the same origin as the Skythians, with whom they were connected. The local legend stating that they came from Gaur (Bengal) is simply incredible. From the evidence before us it is probable that the Tagas are descendants of some alien race which was subsequently obliged to submit to the Aryans and assist them in their onward progress, but all theories on these matters must be purely speculative until we have better materials to build upon.

Gújars and Játs occupy the upland ridge above the Ganges *khudir*, while
 Other castes.¹ parganah Gordhanpur, within the *khudir* of the Ganges, and parganah Bidanli, bordering on the Jumna, are almost entirely held by Gújars. The Khúbar *got* predominates in Gordhanpur, and a branch of the Jabarhora family is established there. In Bidanli are some Rawas who claim descent from the Khokhars in the far west. Wedged in between the Gújars and the Chauhāns of Chausāna on the west and the Pundirs of the Muzaffarnagar parganah on the east is a Ját settlement which formed a portion of a *battsa* (group of 32 villages) composed of various *gots* which gradually coalesced. Returning to the Jumna parganahs, we find a Gújar *chaurāsi* (group of 84 villages) of the Kalsin *got* in parganah Kairāna, north-east of which are the Játs of Shāmli, while south-east of Shāmli comes a *bāoni* (group of 52 villages) of Játs of the Ganthwāl or Ganthwāra *got* grouped around the parent village of Lisárh. These Játs ascribe their origin to Garh Gazni. East of the Ganthwāl colony is a *chaurāsi* of Játs of the Baliyān or Bálāen *got*, whose oldest village is Sisauli, near the Hindan. It is bounded on the east by the west Kālī nadi, on the right bank of which is situated their chief town, Pūr

¹ From a note by Mr. C. Donovan, C.S., through Mr. G. Williams.

Báliyán. Along the northern border of this *churási* and south of the tract held by the Tagas and Panlírs lies a mixed population of Játs, Gáras, &c. Báliyán is the title or *bank* of the Badgújar *got* of Játs, and this must have led Elliot into the error of placing a Badgújar Rajpút *chaurási* here. Chamárs, as usual, form the bulk of the agricultural population, but Játs, Tagas, Gújars and Sainis are the more important portion of the cultivating community. Khági Chauháns are found in the Ganges *kháulir*. Like the Gújars and other tribes of still lower degree, the Játs love to style themselves Rajpúts excommunicated on account of their indulgence in *karáo* (concubinage generally, or the marriage of a widow with the brother of her deceased husband). The Rajpú's, while not absolutely rejecting the alleged connection, look upon both Gújars and Játs in the same light as half-castes of inferior origin, but vastly superior to the mass of Gáras, Khági Chauháns and others of the baser sort. Most of the Játs in the districts would come under the head of Deswále, or those who were the first of their clan to obtain a footing in these provinces.

Musalmán are distributed amongst Sayyids (11,999), Shaikhs (167,075),
 Muhammadans. Mughals (1,721), Patháns (9,589), and unspecified (713). The Sayyids nearly all belong to the celebrated Bárha family, of whom some account is given hereafter in the district history. The Shaikhs include the converted Hindús, comprising Gáras, Jójhas, Játs, Gújars, and Rajpúts. The Shaikhs proper, here usually called Shaikhzádahs, are numerous in Púr, Kándhla, and Thána Bhawan. Gáras are so called from the practice of burying their dead which they adopted on their conversion to Islám. They are an industrious race and seem to have been recruited originally from all classes of Hindús, though here they have been chiefly drawn from the Rajpút clans. The name '*jójha*,' signifying 'stomach,' has been given in derision to another class of converts from Hinduism. The name Rangar, generically applicable to all Rajpúts, is sometimes confined to Rajpút converts to Islám, while the Játs and Gújars retain their old Hindu names. The chief landowning Musalmán Rajpút family is that of the Marhal Nawáb of Karnál, who reside in the village of Jarauda in parganah Muzaffarnagar of this district. Originally chief of a petty Rajpút tribe, the Marhal Raja became a convert to Muhammadanism, and during the troublous times of Shah Alam's reign,¹ one of his descendants obtained a grant of parganahs Muzaffarnagar, Chartháwal, and Soron, which he held at the conquest. For these the Marhals received in exchange, in 1806, lands beyond the Jumna, but a very great part of their possessions now lies in this district. The Patháns form an influential portion of the Musalmán community in the western parganahs, and there are a few Mughals scattered throughout the district. Sayyids held in the Ganges canal tract, in

¹ The revenue-free grants which were improperly confirmed, notwithstanding Mr. Moberly's sensible attempt to resume them, date from the seventeenth year of Shah Alam's reign.

1874, 124,660 acres out of the 239,287 acres originally possessed by them there.

Statistics relating to the occupation of the people are one of the fruits of the census of 1872. The whole male adult population (exceeding fifteen years of age) was divided into six great classes, of which the fourth included all those pursuing avocations connected with agriculture. The first or professional class comprised all Government servants, soldiers, and persons following the learned professions, literature, the arts and sciences, and numbered 5,803 male adults (not less than fifteen years of age), amongst whom were included 4,273 *purohīts* or family priests, 645 *pandits*, 164 *baidis* or physicians, 85 singers, &c. The second class numbered 29,174 members and comprised all males engaged in domestic service, as cooks, washermen, sweepers, water-carriers, and the like. The third class represented commerce and numbered 19,374, amongst whom were all persons who buy or sell, keep or lend money and goods of various kinds, as money-lenders (2,511), shop-keepers (14,329), bankers and all persons engaged in the conveyance of men, animals, or goods, as pack-carriers, ekka-drivers, porters, &c., (605). The fourth class included persons possessing or working the land as proprietors (10,465), cultivators (83,324), ploughmen, gardeners and nut-growers, and every one engaged about animals, as shepherds, graziers, &c., who alone numbered 1,477 male adults. The fifth class, containing 35,405 members, included all persons engaged in industrial occupations, the arts and mechanics, in the manufacture of textile fabrics and dress, or articles of food and drink, as well as dealers in animal, vegetable, and mineral substances. The sixth class contained 52,407 males, including labourers and others (45,592), and persons supported by the community and of no specified occupation (6,789).

Altogether there were 237,456 males classified by occupation in this district, less than one-half of whom were recorded as belonging to the agricultural population. This result is hardly correct, for the greater portion of the labouring population and those entered as pursuing occupations connected with manufactures, mechanics, and the arts derive the greater portion of their subsistence from the cultivation of the soil, and if sixty per cent. of the total male adult population were entered as agriculturists it would be much nearer the truth. In 1848 the total agricultural population numbered 233,749 souls (172,304 Hindūs and 61,445 Musalmāns), or 43·4 per cent. of the total population. In 1853 the numbers were 325,189 (241,246 Hindūs and 83,943 Musalmāns), or 48·3 per cent. of the total population. In 1865 there were 280,872 agriculturists (205,066 Hindūs and 75,806 Musalmāns), or 41·17 per cent. of the total population. The returns of 1872 show an agricultural population numbering 251,971 souls, of whom 184,056 were Hindūs (78,755 females) and 67,915 were Musalmāns (30,605 females), and

showing as a whole only 36·5 per cent. of the total population. The percentage of the Hindu agricultural population to the total population was 26·7 per cent., and of the Musalmán agricultural population was 9·8 per cent. Distributing the agricultural population amongst landowners and cultivators there were 11,716 male landholders (6,785 Hindús and 4,931 Musalmáns); 9,316 females of the same class (4,910 Hindús and 4,406 Musalmánis); there were 130,895 male cultivators (98,516 Hindús and 32,379 Musalmáns) and 100,044 females of the same class (73,845 Hindús and 26,199 Musalmánis). Including labourers, the occupation statements show 232,346 male agriculturists, or 62 per cent. of the entire male population, bearing out the statement made above that the agricultural population cannot be less than 60 per cent. of the total population. Throughout the entire provinces the Musalmáns have a less proportion of their number engaged in agricultural occupations than the Hindús. For every 1,000 Hindús the returns show 599 as agriculturists, while for the same number of Musalmáns there are only 351 agriculturists. Mr. Plowden has noticed the abnormally low percentage of the agricultural class in this district, one, too, where there are no large towns and no industrial occupations to employ so large a proportion of the inhabitants. He, too, thinks that the labouring population should be added to the class recorded as agricultural to give correct results.

Mr. Cadell draws attention to the growth of hamlets since the British occupation. In the days of Sayyid supremacy many new villages must have been formed merely to fall away when the fostering power of their founders passed away, and in the latter half of the past century, when Sikh, Rohilla, Gújar and Marhatta, together or in turn ravaged the district no small community could exist, and the settlers fell back on the strong villages from which they had gone forth. Even now there is only 0·5 villages per square mile, while the provincial average is 1·1, ranging from 2·4 in Basti to 0·3 in the wild country of Lalitpur. After the final pacification of the district in 1805, colonies were again sent out, but so gradually that the beginning of not a few flourishing villages is still remembered. "The crowding of the population into large villages," writes Mr. Cadell, "is to a certain extent disadvantageous, but the power which the large cultivating communities have acquired from their numbers and their wealth are of great service to them in resisting the encroachments of the landlords; and the people must feel that they would lose in unity and defensive power if they were scattered over several hamlets instead of being collected together in the old ancestral village. The fact, too, that nearly all the best land is held by occupancy tenants, whose fields are situated all over two and even three estates, makes it still more unlikely that any large number of tenants will leave their present dwellings; for to do so would, while bringing them nearer some fields, take

them away further than before from others, and to effect exchanges of hereditary fields is always difficult and generally impossible."

With the exception of some mosques of the Rohilla-Pathán period, two at

Habitations.

Ghausgarh and one at Morna, all of which are graceful and picturesque structures; a few Sayyid tombs at Majhera and the once magnificent Sayyid mansions at Jānsath, Mirānpur and Kaithora, now fast falling into decay, the architecture of the district presents nothing remarkable. There is not a single Hindu temple worthy of note, and the peasantry occupy the ordinary over-crowded mud huts with thatched roofs common to the whole Gangetic plain. Marble and sandstone of the very best quality, wrought by skilful workmen and adorned with the most exquisite fret-work, entered extensively into the composition of the Sayyid architecture, but the damage to its monuments commenced by Sikhs and Marhattas, and nearly completed by the poverty and indifference of the present Sayyid owners, has left little but a few suggestive memorials of the past. The statistics of the census of 1872 gives the number of enclosures or *idatals* inhabited by Hindús at 43,609, whilst Musalmáns occupied 20,400 and Christians 9, or a total of 64,018. This shows 38 enclosures to the square mile and ten persons to each enclosure. The separate houses, their character and distribution, are as follows:—

Class of house.	INHABITED BY			Total.	Number of inhabitants.
	Hindús.	Musalmáns.	Christian.		
Built with skilled labour,	13,531	6,831	10	20,372	93,633
With unskilled labour, ..	97,999	36,639	2	134,640	596,449
Total,	111,530	43,470	12	155,012	690,082

This return gives 98 houses to the square mile and 4.4 inhabitants to each house. The proportion of persons inhabiting the better class of houses in the total population is only 13.6 per cent., whilst the divisional average is 10.2 per cent., which shows a low standard of comfort throughout the division.

The pancháyat system is in full force in the district, and the parties to a jury of this kind usually take an oath on a *lota* filled with salt to abide by any decision that may be arrived at. Sometimes when a man is found guilty, a piece of grass is placed between his teeth and he is made to stand thus before the whole assembly. The culprit is always fined, and the fine generally takes the shape of a feast to the assembled brethren who have been needlessly summoned to hear his defence. Chaudhris

Customs

are usually elected by a vote of the trade or guild, and perform the same duties as in other districts. There is nothing peculiar in the dress or food of the people deserving of notice. The daily fare of the lower classes amounts to a mere subsistence allowance, and maize, *jodr* and barley are ordinarily consumed. The better-off people eat wheat, rice, *dál* and *másh*.

As might be expected from its proximity to Dehli, there is a large proportion of converts to Islám in this district, comprising all classes of the community, but chiefly Játs, Gújars, Tagas, and Rajpúts. At present there is no proselytising movement on foot except, perhaps, in the Shámli tahsil, and, as a rule, there is none of that religious bigotry which is so characteristic of the relations between Musalmáns and Hindús in other districts. The Shiah sect is numerous in the east of the district, where it is represented by the Bárha Sayyids. Besides the general belief in Parameshvar or Bhagwán, the lower classes of Hindús have their favourite saints, to whom and to whose shrines their active devotion is mainly made.¹

Piyárá Jí. Piyárá Jí is one who is a great favourite with a large section of the community. His temple is at Randewa, the parent (*dhika*) village of the Dápa Gújars, midway between Nakúr and Ambalita. His grandfather, Rámjī Padárath, Bádgarosh, was born in 1545 *sambat* (1488 A.D.), at Durganpur, in parganah Budhána, in this district, and disappeared immediately after his birth. Six days afterwards, he reappeared, much to his mother's delight, who sacrificed to the gods in thanksgiving. As he grew up, he was appointed to watch the cattle of his father, and one day allowed them to stray into the field of a Rajpút, where they did much damage to the corn. The Rajpút complained, but when the authorities came to make a local inquiry, the field was found intact, and the people declared that a miracle had been performed. The youth had sense enough to make the most of this incident and soon gathered around him a band of disciples. His reputation increased and he married into the wealthy family of Bhawáni Dás, Bádgarosh of Khudi-Shikárpur. The fruit of this union was Raghunáth, who married into a family at Soron and had a son, Piyárá Jí. The saintly fame of Piyárá Jí reached Garhwál, and the Raja of Srinagar gave him five villages. About this time a quarrel broke out between the Brahmans and Gújars of Sadrpur, and the latter murdered the priests, but in revenge the ghosts of the murdered men tormented the Gújars, who prayed for the assistance of Piyárá Jí. He, nothing loth, granted their request and even went further, for he declared that Sadrpur belonged to him in a former birth, and the discovery of a well dug by him proved the correctness of the assertion to every one's satisfaction. Piyárá Jí then took possession of the village and changed its name to Andeva, of which Randewa is

¹ See Mr. G. Williams' article in *Cal. Rev.*, LVIII, 192, to which I am indebted for some of these notes.

the modern rendering. He died there and was buried in the village. Prayers and offerings are made at his shrine on the sixth of the dark half of Chait. Piyára Jí was succeeded by his son Lál Jí, who died without issue, and the zamíndárs elected one of his disciples, Har Gobind, to succeed him, and since then the appointment lies in the hands of the descendants of Madári, brother of Piyára Jí, and in the hands of the descendants of the brothers of the widow of Lál Jí. The affairs of the shrine are managed by Bairágis, who own two-thirds of the village, while one-third remains in the possession of Piyára Jí's descendants. The saint's followers are Vaishnavas, and wear black necklaces (*kála kantha*).

Another Gújar shrine at Biláspur, to the south-east of Lakhnauti, is attended by numerous pilgrims from this and the neighbouring districts in the month of Asárh. Mr. Williams gives the following account of its origin :—“About three hundred years ago, Amrao, Gújar, a zamíndár of Biláspur, suddenly took to shaking his head about and exclaiming :—‘I am Devi Pulamdeh. Erect a temple to me. Kati, Brahman, will be my priest ; he and his descendants are to receive all offerings made to me.’ The inspired voice was obeyed without question. About half a century ago, Sáhib Mall, a pious Mahájan of Bidanli, built a well near the temple for the convenience of worshippers.” Goga Pír is worshipped throughout the upper

Dnáb by both Hinús and Musalmáns. Large assemblies are held in his honour at the Goga-kathal fair in Guru Rám Rái's Thákurdwára in Dehra, at the Gúgúthal fair at Mánikpur near Saháranpur, and at the Sárj Kund in Meerut and Níloha in the Meerut district. These assemblies are called *chhariyán*, from the standards borne by the pilgrims. On the ninth day of the new moon of Bhádon the standards are raised and are carried about whilst the fair lasts, which is usually two days. The tomb of the saint is twenty miles beyond Dadra and 200 miles to the south-west of Hissár.¹ He is also called Záhir Pír, and in Meerut Záhir Diwán. The local tradition is that Goga was the son of a Chauhán Rajpút Raja called Vacha, or as some say Jewar, whose wife, Báchal, a Tuárin, after she had been long barren, bore to him a son through the kind intercession of Gorakhnáth. His territory extended from Hansi to the Ghara or Satlaj, and his capital was at Mehra on that river. Another legend makes him Raja of Bikanír. In a quarrel about land he killed his two brothers, and, grieved at their fate, prayed that the earth might open and swallow him, but a voice from heaven declared that he would not be buried alive, horse and all, unless he repeated the Musalmán confession of faith. He appears to have done so, on which the earth opened and he leaped into the chasm. Another legend makes his opponents not only his brothers but his relative Prithiráj of Dehli. He conquered all these with

¹ See Beames' Elliot, I, 255.

the aid of Ratan Hájji, who gave Goga a javelin which shot hither and thither through the air of itself and destroyed all obstacles. Prithiáj was killed in the fray, and in remorse for his crime Goga buried himself alive. Goga's horse is celebrated under the name Javádia. It is said that the father of Goga received two grains of barley (*jau, java*) from his guardian deity, one of which he gave to his wife, who bore him Gogi, and another to his mare, who brought forth the steed Javádia¹. Some say the barley-corns were given by Goga to his own wife and stud-horse. Sir H. M. Elliot thinks that there is some reason to suppose that Goga "must have contended with the earlier Ghaznavide monarchs, for several favourite ballads relate how he fell with his forty-five sons and sixty nephews opposing the great Mahmúd on the banks of the Ghara." The Agarwála Baniyas are specially devoted to Goga, and on his feast day the Bhangís (or sweepers) carry round the sacred symbols of the Pír and levy contributions. Cunningham says² that in the lower Himálayas of the Panjáb there are many shrines to Goga. There the legend runs that Goga was chief of Ghazni, and fought with his brothers Arjun and Surjan. "He was slain by them, but a rock opened, and Goga again sprang forth, armed and mounted. Another account makes him lord of Dard-Darehira in the wastes of Rajwára." Tod³ writes :—"Goga, Chauhán, was the son of Vacha Raja, a name of some celebrity. He held the whole of Jangal-des, or the forest lands from the Satlaj to Hariána; his capital, called Mehera or Goga-ka-Mairi, was on the Satlaj. In defending this he fell with forty-five sons and sixty nephews; and as it occurred on Sunday, the ninth of the month, that day is held sacred to the *manes* of Goga by the thirty-six classes throughout Rajputána, but specially in the desert, a portion of which is yet called Gogadeoka-thal. Even his steed Javádia has been immortalized and has become a favourite name for a war-house throughout Rajputána, whose mighty men swear by the *sátka* of Goga, who maintained the Rajpút fame when Mahmúd crossed the Satlaj."

Bába Kálu is another of the local saints held in great reverence by low-caste men as Chamárs, Kahárs, Kumbárs, Sainis, Garariyas, and Mehras. Jāts are also said to do him

Bába Kálu.

honour. The origin of the worship of this saint is thus described by Mr. Williams :—"The fairies were wafting Solomon through the air upon his throne. The monarch, looking down, chanced to see a young Kahár girl heaping up manuro on a dung-hill. The sight disgusted him so much that he affected to stop his nose and exclaimed, 'Who in the world could marry such a dirty ugly little girl!' Soon after, however, desiring to take a bath, he had his throne laid down by the edge of a stream. He undressed and inadvertently

¹ Tod's Rajasthan, II, 413, note.

² History of the Sikhs, 11; Herklotts, 432.

³ Rajas-

than, II, 421.

left his magic ring near his clothes on the bank. Scarcely had he plunged in than a fish, jumping out of the water, swallowed the talisman. The fairies at once flew away with the throne, for the charm of the ring was broken. The king remained shivering behind in great distress. He eventually made a virtue of necessity and took refuge in an adjacent village, where he was hospitably received in the house of the very girl he had seen gathering dung. One day the maiden's mother remarked to her husband — 'You should marry our daughter to a man like our guest.' This she repeated thrice. The mystical number worked, and Solomon said, 'Marry her to me, for you have spoken three times.' The marriage was accordingly celebrated, and consummated, the young couple living in a separate abode. Some time after the king's father-in-law went to drag the river with a net, and catching, among others, the fish that had swallowed the magic ring, carried home his prize. The fish being a large one, his wife told him to give it to his daughter and keep the rest. When the girl cut it open, she discovered the ring, and gave the ornament to her husband, saying, 'It is a beautiful thing and worthy of you.' When the evening meal was over, the king put the talisman on his finger: the fairies appeared bringing in the throne, he seated himself upon it, and vanished, never to return. His disconsolate wife was pregnant, and in due course brought forth a child,—Bába Kálu. A stick decorated with peacock's feathers represents the holy personage. To this fetish, trifling offerings are made; many other such superstitions, not to speak of ghost and demon-worship, prevail. They prove Hinduism proper to be a mere name. Brahmanism is something quite above the comprehension of the masses, whose degraded religious condition presents only one hopeful aspect. The greatest obstacle to the propagation of a true faith is a creed which, though false, still seems to meet wants satisfied by one more pure. But the paganism I have just described hardly rises above the level of fetishism: it is thus hard to understand why the mind of the nominal Hindu should be invincibly prejudiced against the reception of a higher form of religion, and, as a matter of fact, Muhammadanism has been extensively accepted."

The chief peculiarity of the dialect of the people is the strange mixture of garbled Persian and Arabic with pure Hindi words. A man accustomed to the eastern districts finds that he must substitute pure Hindi for ordinarily used words like *zamín*, while he is met here by mispronounced words of Persian and Arabic origin which sound at first hopelessly unintelligible. A cultivator thinks it grand to speak of his '*maldaik*' instead of his '*má*.' A Chamar watching a corn-field will say that he is doing '*mahavjat*;' a villager speaking of the death of his neighbour will say that he has '*kál kar diya*,' and it takes some time and thought to trace such mangled expressions to their true source and to identify them with such refined terms as '*validah*,' '*muháfizat*,' and '*intikál*.' Beyond this there is nothing

Language.

peculiar in the language. Ordinarily spoken Hindi is more generally used by the people of the *khádír*, and Urdu by the inhabitants of the upland.

In 1848 there were 290 schools in this district, of which 108 were Hindi, 23 were Sanskrit, 110 Persian, 48 Arabic, and 1 English. In Kairána alone there were 1 Hindi, 2 Sanskrit, 8 Persian, and 6 Arabic schools, with 246 pupils. In Muzaffarnagar there were 14 schools, and the average in each of sixteen other towns was 5.5. Amongst the villages, one had nine schools, one had six, three had five each, six had three each, seventeen had two each, and eighty-nine had one school each. There were 290 teachers, of whom 170 were Musalmáns. The average age of each teacher was 38.25 years, and his average monthly income was Rs. 4-2-2. The total number of boys at school was 3,411. Fixed salaries were paid to 252 of the teachers, and 38 of them taught gratuitously. In the parganahs inhabited by Gújars, Chauháns and Chamárs there were very few schools. Of the Hindi schools, eleven taught Sanskrit also, and in 97 arithmetic and keeping of accounts were taught. Of the teachers, 14 were Musalmáns, 48 were Brahmáns, 43 were Jogis, and 3 were of other classes. Their average monthly income was Rs. 3, 2, exclusive of daily food. There were altogether 1,650 boys attending these schools, out of which number 936 were Baniyas, 315 Brahmáns, 47 Musalmáns, 40 Rajpúts, 1 Káyath, and 311 miscellaneous. The 23 Sanskrit schools were attended by 229 pupils, and all the teachers were Brahmáns.

Amongst the Persian and Arabic schools 80 were in villages and 78 in towns. Two teachers were Hindús and 156 were Musalmáns; 189 received fixed pay at an average of Rs. 5 a month, besides what they received on holidays, on the marriage of their students, or when they commenced new books. There were 1,516 students, of whom 1,152 learned Persian and 364 studied Arabic; 535 were Hindús and 981 were Musalmáns. The solitary English school was one kept up by the Government officers at head-quarters, which was attended by 16 pupils. Taking the district as a whole, in the 289 vernacular schools in 1848 there were 3,395 pupils under instruction (1,028 Musalmáns and 2,367 Hindús) out of 44,799 male children fit for instruction, or 6.9 per cent. The average area to each school was 5.6 square miles. 135 villages had schools and 993 villages had no schools. Only 18 of the Persian schools and 23 of the Hindi schools had been in existence for more than ten years. Education is now under the superintendence of the Inspector of the first or Meerut circle in concert with the local educational committee, of which the collector of the district is *ex-officio* president. The tahsili schools were opened in 1856, the halkahbandi or village-circle schools in 1859, the female schools in 1864, and the zila school in 1867. The zila school educates up to the third class of a high school, or two years short of the matriculation standard. It has a

boarding-house for the accommodation of pupils from the district. Though there are no Government female schools, there are seventeen girls' schools included amongst the indigenous unaided schools.

The following statement gives the educational statistics from the departmental reports for 1860-61, 1870-71, and 1874-75 :—

Class of school.		1860-61.			1871-72.						1874-75.							
		No. of schools.	No. of pupils.	Cost.	No. of pupils.		Average daily attendance.	Cost per head.	Proportion borne by State.	Total charges.	No. of schools.	No. of pupils.		Average daily attendance.	Cost per head.	Proportion borne by State.	Total charges.	
					Hindus.	Musalmáns.						Hindus.	Musalmáns.					
				Rs.				Rs. a.	Rs. a.	Rs.					Rs. a.	Rs.	Rs. a.	Rs. a.	Rs.
Government.	Zila (inferior), Tahsili and Pargana.	5	272	1,309	1	53	13	66	50 0	34 9	3,737	1	55	12	90	56 16	65 15	2,358
	Halkabandi.	68	1,960	7,060	91	1,899	990	2,708	9 3	1 9	10,187	107	2,016	931	2,240	5 14	...	13,340
	Female.	...	...	...	2	...	30	25	4 5	4 5	130	5	...	73	60	8 0	7 0	410
	Municipal.	...	...	...	...	...	...	...	...	...	...	4	50	63	80	5 12	...	405
	Indigenous (unaided).	230	2,927	9,778	223	2,093	1,173	2,539	2 5	...	7,574	318	2,219	1,450	3,121	8 6	...	11,330
Total,		352	5,159	18,147	320	4,232	2,276	5,085	...	...	22,921	419	4,701	2,640	5,903	...	...	31,486

An attempt was made at the census of 1872 to collect some information on

Statistics of education the state of education generally amongst the people at the census.

Though avowedly defective in detail, the general indication of the result may be accepted. The following statement shows the number of Hindús and Musalmáns who can read and write (literate), and the percentages of the same to the total population of the same religion, sex, and age. The Christian population is so small that the returns affecting them have been omitted :—

Ages.	HINDÚS.						MUSALMÁNS.					
	Males.			Females.			Males.			Females.		
	Number.	Literate.	Percentage.	Number.	Literate.	Percentage.	Number.	Literate.	Percentage.	Number.	Literate.	Percentage.
1 to 12 years,	91,368	1,534	1·6	71,251	...	...	33,392	807	1·6	28,140	...	...
12 to 20 "	46,566	2,832	6·0	35,648	...	...	16,881	701	4·1	14,264	...	...
Above 20 "	136,126	9,311	6·8	118,002	1	...	51,263	2,085	3·9	47,157	...	...
Total,	274,049	13,677	...	224,901	1	...	101,536	3,103	...	89,561	...	...

The chaukidárs or village watchmen are organised under Act XVI. of 1873, and in 1874 numbered 1,239, distributed over 937 inhabited villages and giving one to every 467 of the rural population. The sanctioned cost per annum is Rs. 45,180, which is met by a grant from provincial funds. The regular police enrolled under Act V. of 1861 numbered, during the same year, 723 men of all grades entertained at a cost of Rs. 80,989 per annum, of which Rs. 60,775 are paid from the provincial revenues and the remainder from other sources. The average pay of each constable is Rs. 72 per annum. The proportion of police to area is one to every 2·23 square miles, and to population is one to every 954 inhabitants. The following statement gives the crime calendar for eight years and the results of the action of the police in the detection and prosecution of offenders :—

<i>Cases cognizable by the police.</i>						<i>Value of property.</i>		<i>Cases.</i>			<i>Persons.</i>			
<i>Year.</i>	<i>Murder.</i>	<i>Dacoity.</i>	<i>Robbery.</i>	<i>Burglary.</i>	<i>Theft.</i>	<i>Stolen.</i>	<i>Recovered.</i>	<i>Total cognizable.</i>	<i>Under inquiry.</i>	<i>Prosecuted to conviction.</i>	<i>Brought to trial.</i>	<i>Convicted and committed.</i>	<i>Acquitted.</i>	<i>Proportion of convictions to persons tried.</i>
						<i>Rs.</i>	<i>Rs.</i>							
1865, ...	4	1	2	266	505	45,012	9,290	1,036	407	187	673	268	387	39·8
1867, ...	2	...	0	182	631	46,073	9,594	1,120	379	186	764	348	377	45·5
1868, ...	3	1	16	261	709	38,266	11,241	1,344	799	243	898	487	348	54·2
1870, ...	3	...	9	234	327	23,018	7,542	928	582	270	728	471	252	65·1
1871, ...	7	2	21	291	408	28,899	6,404	1,075	718	243	624	379	245	60·7
1872, ...	9	...	7	432	337	31,166	7,997	1,085	1,044	296	776	484	256	62·3
1873, ...	6	1	21	472	350	25,277	9,238	1,130	1,130	375	849	619	189	72·9
1874, ...	7	1	10	378	339	16,151	7,661	1,238	1,238	473	1,192	903	194	75·7

For several years the police administration in this district was characterised as the worst or amongst the worst in these provinces. In 1871 the Inspector-General writes :—"The police have been slothful in inquiries and unsuccessful to a degree in prosecutions," and the figures given above would certainly bear out this verdict. Since then, however, the district administration has been gradually and steadily improving. Sansiyas from Bundelkhand, Bauriyas from the district itself, and Kanjars, Nats and other gipsy tribes form the prevailing element amongst the criminal population. Two of the six murders committed in 1873 were the killing of young children in order to use their life blood in the preparation of certain charms to prevent barrenness in the one case and to propitiate the demon ruling the black art in the other case. In the adjoining district of Saháranpur a similar crime was committed with the same object in 1873. There are police-stations of the first-class at Kairána, Shámli, Thána Bhawan, Budhána, Khatauli, Miránpur, Muzaffarnagar, Bidauli and

Gordhanpur ; there are second-class stations at Jhanjhána, Jánsath, Púr, Bhupa, Chausána, Titáwi, Sháhpur, Kándhla, and Chartháwal ; and third-class stations at Dharmapura, Butrára, Barla, Ilahabás, and Begharazpur. The Bauriyas of Muzaffarnagar have been settled in Pidauli and have been placed under the provisions of Act XXVII. of 1871 since August, 1873. They then numbered 832 souls, and in 1875 there were 905. Some account of them and their colony, comprising some seven villages, has been given on a previous page.

Under the provisions of Act VIII. of 1870 inquiries were instituted regarding the practice of female infanticide by the Rajpút tribes in this district. In July, 1870, the Magistrate reported that 230 villages were suspected and 36 were particularly addicted to the practice, but the report was so incorrectly drawn up that it was impossible to act upon it, and the matter was allowed to lie over until the statistics of the general census of 1872 were available for comparison. A fresh report was made in March, 1873, with detailed lists of all the villages proposed for proclamation. First those parganahs were selected in which the tribal percentage of female minors fell below 40 per cent. on the total minor population. Then those villages were taken which had a reasonably large minor population and the percentage fell below 35. Only when the figures showed very flagrant guilt were any villages included from parganahs which were innocent as a whole. The entire number of villages coming under repression according to these standards was 130, inhabited by Rajpúts, Játs, Tagas, and Gújars. Amongst the Rajpúts four clans were found guilty : the Kachhwáhas, Jhotiyánas, Pundírs, and Chauháns. The Kachhwáhas live in nine villages and were proclaimed in two. Seven villages inhabited by Jhotiyánas, ten Pundír villages, and two Chauhán villages came within the rules. The Tagas in 18 villages, Játs in 48, and Gújars in 43 were also proclaimed and brought under the rules from the 1st April, 1873. A further revision took place towards the end of 1873, which resulted in the exemption of 36 villages, leaving 94 villages on the proclaimed register in May, 1874.

There is but one jail in the district, the statistics of which are as follows.

Jails. The average number of prisoners in jail in 1850 was 237, in 1860 was 83, and in 1870 was 94. The ratio per cent. of this average number of the population, as shown in the census of 1865 (682,212), was in 1850, .034 ; in 1860, .012 ; 1870, .013. The number of prisoners admitted in 1860 was 770, and in 1870 was 473, of whom 10 were females. The number of persons discharged in 1870 was 374. In 1870 there were 57 admissions into hospital, giving a ratio of admissions to average strength of 60·75 ; of these 8 died, or 8·46 of the total strength. The cost per prisoner per annum in 1870 was—for rations, Rs. 18-5-2; fixed establishment, Rs. 18-15-0; contingent guards, Rs. 10-4-7; police guard, Rs. 6-2-6; and additions and

repairs, Rs. 6-13-4, or a total of Rs. 60-8-7. The total manufactures during the same year amounted to Rs. 1,285-2-0, and the average earning of each prisoner to Rs. 13-9-7. In 1870 the Muhammadan prisoners numbered 132, and the Hindu 260. There were 6 under 16 years of age, 367 between 16 and 40, 88 between 40 and 60, and 11 above 60. The occupation of the majority of the male prisoners were agriculturists, 160; labourers, 81; shop-keepers, 25; and professional, 79.

The general fiscal history of Muzaffarnagar has been noticed under the

Fiscal history.

Sahāranpur district, and but a few local notes are necessary here to fill up the outlines of the various settlements of the land-revenue, already given and to afford a sufficiently clear view of the state of the district itself. The first order regarding the conquered provinces is contained in a letter from the head-quarters camp at Khūrja,¹ four days after the capture of Aligarh, directing the Collector of Moradabad to enlist five hundred matchlockmen for the defence of the upper duāb. On the 2nd October, 1803, the Collector of Moradabad was directed to attach such

Settlement of 1803-04.

portions of the territory conquered from Daulat Rāo Sindhia, as lay near the Meradabad frontier, to his own district, and make a settlement for one year on as fair and moderate terms as could be attained to with the information before him. It was left to his discretion to make the settlement immediately with the actual proprietors, or with amils of respectability, or to collect the land-revenue direct through tahsildārs, and his instructions² concluded with an assurance on the part of Government that "whilst your utmost endeavour will be exerted to fix a fair and equitable rate of assessment on the conquered districts, committed to your charge, you will not be unmindful of the serious obligation which is imposed on you of regulating your conduct in such a manner as to conciliate the confidence and attachment of the inhabitants of those districts, and to impress them with a just idea of the incalculable benefits which will result to them from being placed under the protection of the British Government." The Collectors of Moradabad and Etāwa and the Agent of the Governor-General at Farukhabad met at Koil on the 28th October, 1803, and arranged that the tract now comprised in the districts of Sahāranpur, Muzaffarnagar, and part of Meerut should be managed by the Collector of Moradabad as the first division, while the south of Meerut and the greater portion of Bulandshahr were placed under Colonel Ochterlony, the Resident at Dehli, as the second division. This allocation of the conquered territory was confirmed in November, 1803, as a temporary measure, and until the revenues of the province were sufficiently ascertained to admit of a further distribution. Even then it was thought that

¹ From J. Gerard, Adjutant-General, to W. Leicester, Collector, Moradabad, 8th September 1803.

² Given in more detail in *Gazetteer*, II., 207.

the "extreme distance of the north-western portion of the duáb from Moradabad, and the necessity of retaining some efficient civil authority near the extensive frontier on that side towards the countries of the Sikh chiefs, would render a subdivision of this portion necessary." In December, 1803, a new arrangement was made by which the tract comprising the first and second divisions of the Koil conference was to be formed into a separate charge under Mr. J. D. Guthrie, but, owing to the disturbed state of the district, the transfer did not take place until the 30th August, 1804. It would, therefore, appear that Mr. W. Leycester of Moradabad made the first settlement for a portion of the new division, and Colonel Ochterlony made the settlement for the remainder.¹

One of the first duties of the Collector was to inquire into the tenure of
 1804-05. parganahs Muzaffarnagar, Chartháwal, and Soron, held in *jáedád* for the support of troops by the Marhat chiefs, Muhandi Khán, Mansúr Khán, and Ghairat Ali Khán, and parganahs Banat and Baghra, held on a similar tenure by Najábat Ali Khán. Instructions were also issued for the new settlement which was to be made through amins, and to follow the spirit of the rules laid down for the ceded provinces as noted under the Saháranpur district. Where revenue was taken in kind there were to be three classes of land:—*banjar*, or waste; *chanchul*, or land which was for three to four years out of cultivation; and *polach*, or land in a full state of improvement. For the first class the Government demand was fixed at one share out of eight, for the second at two shares, and for the third at five shares. The cultivators were to be bound down that the cultivation of *polach* land should not be less in the ensuing than in the current year. Of the expenses usually attending settlements, *bhent* or *nazarána*, measurement charges and *pat-wáris'* dues, the first was to be abolished, the second was to be borne by Government, and the third by the cultivators, while it was ordered generally that a liberal allowance, according to local custom, should be made to the headmen of villages wherever division of crops prevailed. Mr. Guthrie was much troubled by the Sikhs and Pindáris, and, for a time, took up his quarters at Fazlgarh (eight *kos* from Meerut). In forwarding his fiscal arrangements for 1212 *fashí*, he notes an increase of Rs. 79,983 above the assessment of 1811, but adds that "from this increase, however, there will be large deductions on account of the damage sustained from the incursions of the enemy and the march of the troops through this district." Up to the end of May, 1805, the Collector performed the duties of Magistrate and Collector for both divisions. Towards the end of May, he handed over the office of Magistrate of the southern division to the newly appointed Judge and Magistrate of that district, resident at Meerut, but

¹ The statement at p. 207 of the Gazetteer, Vol. II., must be corrected accordingly, as though the orders were given in December, 1803, for Mr. Guthrie to take charge, they were not carried out until August, 1804, according to the local records.

the separation of the duties of Magistrate and Collector for the northern division of the district, the head-quarters of which were at Saháranpur, did not take place until the 27th October, 1805.

In handing over charge to the Meerut Magistrate, Mr. Guthrie writes as follows¹ :—“ At the time of the settlement the tahsildárs

Mr. Guthrie,

were made responsible for the police on the terms of the regulations for the ceded provinces, the settlement being made individually with the zamíndárs, and on the same principles of the regulations, police daroghas were appointed in the principal towns of their parganahs. The two farmers, Raja Ramdayál Singh and Raja Nain Singh, and the *mukararidárs* were equally made responsible for the police in their several parganahs. I did not think it expedient to appoint police officers to the principal towns in those parganahs, as I knew it would occasion dissatisfaction to them, and I did not consider it absolutely necessary. You will observe, however, that police officers were appointed to the several gháts on the Ganges—a measure which I conceived to be highly essential. A Mufti, Maulvi Muhammad Zahid, was appointed to superintend the trials of prisoners committed. I beg to mention to you the conduct of Fateh Ali Khán, a gentleman of rank and family at Meerut. During the short time Holkar was at Meerut he took charge with his private followers of one of the gateways, and the kánúngos of the parganah did the same at another gateway. The circumstance was reported to His Excellency the Commander-in-Chief: their conduct was certainly highly meritorious. As the parganahs of Muzaffarnagar, Chartháwal, and Soron will probably form a part of your division, and under a doubt whether the parganahs of Baghra and Banat (Sháunli) may not also be included in it, I beg to state the circumstances of those parganahs. The three former are held as *jáeddád* by Muhamdi Khán, Mansúr Khán, and Ghairat Ali Khán, for which they are bound to keep up 200 horse. These horsemen are of course under the control of the ruling power, and as such, I employed them at the Hardwár fair in 1804, and at one time had a party stationed at Meerut. These parganahs were never directly confirmed to them. The two other parganahs, with several others that were last year under Mr. Guthrie, are held as *jáeddád* by Nijábat Ali Khán; he has regularly been in attendance on the Commander-in-Chief, and the parganahs were confirmed to him by His Excellency. I had never occasion to exercise authority in those parganahs, and though there could be little question of the right, I should have some doubt as to the mode of exercising authority there; without reference and orders, I should not have done it excepting through the above persons holding the parganah in *jáeddád*. It may be proper you should be informed that some suspicions attached about January, 1804, in the mind of His Excellency the

The Muzaffarnagar jáedáds.

¹ Board's Rec., May 24th, 1805.

Commander-in-Chief relative to the conduct of Raja Ramdayál Singh and Raja Nain Singh; they were supposed to hold hostile correspondence with Holkar. This originated in the information of a man of the name of Zámín Ali, who had been the vakíl of Ramdayál, to Monsieur Perron some time before, but between whom there latterly has existed great enmity, for the gratification of which we know the natives will often go very great lengths. By every various mode I adopted I could discover nothing that led to any suspicion in my mind. Some letters to Holkar, intercepted or said to be intercepted, were delivered by Zámín

Ali; but though I addressed Colonel Blair at Agra, where
The Gújar grantees. Zámín Ali then was, I was unable to obtain any account

of so important a point, as how they were intercepted. Ramdayál behaved very well, at the first opening of the war, in delivering up original sanads from Monsiour Perron for a part of the Moradabad district. He particularly, and Nain Singh also in some degree, are of most uncivilized habits and manners, and their minds are little calculated to comprehend the arrangements of general justice on which our system of government is founded. I endeavoured in every possible manner to impress upon them the conviction that their future prosperity depended entirely on their duly conforming themselves to the orders and rules of our Government. They were in the habit of considering themselves as tributary princes, rather than subjects, an idea they cannot easily abandon, but which presents many disadvantages as such. Ramdayál was allowed a mint under the Marhatta government, and I had some difficulty in prevailing on him to relinquish it. I have no reason to believe that those Rajas have deviated from their allegiance in the present year, and I should suppose all doubts of their fidelity to have been greatly dissipated from the mind of the Commander-in-Chief, as their tenures were confirmed to them by His Excellency when the army was at Meerut in pursuit of Holkar."

"Rái Rámdhan Singh, of Púth Sayána is a character of nearly the same stamp ;

his son, however, who manages the business, is
Játs of Kuchchesar. not deficient in education. Zulfakár Ali Khán of

Jánsath is a highly respectable Sayyid.¹ At the period of the power of the Sayyids at the court of Dehli, the vicinity of Jánsath was the chosen seat where

numbers established themselves. It, at present, exhibits
Sayyids of Jánsath. an innumerable scene of ruins, and the population principally consists of the impoverished descendants of fallen families of former rank and splendour. In the course of time their *jágyras* and lands have been attached ; there are still, however, some few Sayyids who have tolerable means to support themselves with decency. You will be surprized to find one who is still

¹ Zulfakár Ali Khán died in 1824, and the taluka then contained 27½ villages assessed at Rs. 6,000. He was succeeded by his son Akbar Ali Khán, and the assessment was then raised to Rs. 15,001.

proprietor of a *jágir* in the vicinity of Bombay. This place is famed for producing horsemen of spirit and vigour, and the very lowest of them take a high pride in their acknowledged hereditary bravery. Bishárat Ali, one of the *risáldárs* at Meerut, with the greater part of the horsemen are from that quarter. Of the lower orders in the *parganahs* you will find a large proportion of them addicted to most daring robberies and thefts, which they execute in the most adroit manner. You will find them, however, industrious in cultivation, pursuing a system of irrigation unequalled in any part of the country I have been in, and in parts a very flourishing and fertile country. Among the disadvantages are to be reckoned the numerous petty forts that exist: there is hardly a village but what is fortified, and you will often see five or six in view at the same time. My idea of these petty forts has always been that every opportunity of misconduct should be taken to destroy them, but that they should be considered inviolable during good behaviour." This letter does not give a very pleasing account of the district. Harassed by the Sikhs, every village community was obliged to construct for themselves places of refuge into which they might retire on the appearance of "the white horsemen," and hence the number of petty forts which the Collector complains of. But he does so with justice, for no sooner were the landholders relieved from Sikh invasions than they turned their forts into asylums for professional highwaymen with whom they shared the spoil, and notwithstanding the halo that encircles the Rajpút name, it must be confessed that many a family amongst them has risen to wealth and influence as *thangdárs* (or receivers of stolen property) and harbourers of thieves. In the early part of the present century the Ját Rajas of Mursán and Háthras, the Parihár of Sandaus, the Chauháu of Chakrnagar, the Bhadauriya of Kamait, and the Jádón of Awa Misa were notorious for the countenance shown by them to thags and dakaits.

The year 1212 *fasli* (1804-05 A.D.) was marked by the inroads of the Sikhs.

1804-05.

The loss of revenue caused by the destruction of crops in the Saháranpur district as it then stood, and exclusive of the *parganahs* under the Resident at Dehli, was estimated at Rs. 86,905, without counting the cultivators' share of the profits and the plunder of cattle. The Collector wrote¹:—"The loss in cattle sustained by the zamíndárs in those

Depressed condition of the district. *parganahs* near the Jumna is ruinous in its present effects and future consequences. From the best information

that I can procure, the number of cattle driven away from the district by the Sikhs amounts to 30,000." In a subsequent letter,² referring to the state of the district during 1212 *fasli* and the sanction to the proposed remission of Rs. 86,905, the Collector wrote:—"This act of justice exonerated the *málguzárs* from demands on account of the crops destroyed by the enemy, and was a most

¹Board's Rec., July 2nd, 1805, No. 2.

² *Ibid*, May 6, 1806, No. 12.

seasonable mitigation to their distresses, but the relief afforded was not equivalent to the injury sustained, as they forfeited that share of the produce which had it been gathered in they would have enjoyed. Although the expectations of the cultivator from the harvest were thus frustrated and his labours unrequited, this misfortune might be relieved by industry, and perhaps under the advantage of a succeeding favourable season; but many were cut off even from this hope by the loss of their cattle, of which not less than 30,000 were plundered and carried away by the Sikhs. In consequence of these misfortunes, in which almost every zamindár to a certain degree participated, as well as in the loss of villages plundered or burned, and from contributions in money and grain extorted by the Sikhs, many zamindárs were left destitute of stock to enable them to cultivate, and the landholders generally manifested reluctance to enter into new engagements, especially as the Marhatta army was then on the march avowedly with the intention of again invading the Duáb. They were, however, soon relieved from this apprehension, and the state of affairs such as I have described it to have been at the time the settlement was undertaken underwent a happy change before any considerable progress had been made towards its conclusion." Though the fear of invasion was removed, the effects of twenty years of exposure to spoliation from raiders were long observable, and quite as many years elapsed before traces of the misrule that prevailed before the conquest can be said to have been eradicated. Some account of the Sikh invasions is given hereafter in the historical portion of this notice, and from it will be seen that in number and in the injury caused by them, they equal those from which any district in these Provinces has suffered and which have been recorded. From the Siwálík hills to Meerut few tracts, with the exception of those inhabited by their Gújar allies, escaped the raids of the Sikh horse, and to such a degree did their influence prevail, that in order to protect themselves, the people allowed their country to be divided into *pattis* or sub-divisions, each of which paid black-mail to certain Sikh sirdárs. The industrious communities were reduced to the lowest pitch of misery, and the chief portion of the produce of their fields went to feed the numerous soldiery who swarmed in every direction.

At this time much of the district was held by large farmers who paid a fixed revenue, and hence were called *mukararidárs*. The principal were the Gujúr Rajas Ramdayál and Nain Singh, Ráo Rámghan Singh of Kuchchesar, Ráo Ajít Singh of Dádri, Sayyid Zulfakár Ali Khán of Jánsath, and Bahramand Khán, the Turkmán of Lakhnauti. The Collector explains the fact of by far the greater portion of the district being in the hands of farmers as due to the oppressions exercised by the Marhatta government, and particularly to their revenue system. "To avoid the extortions exercised by the amils, who paid little respect to the rights of the inferior

class of zamíndárs, they sought protection under others of greater wealth and influence, who undertook the management of their lands; while bankers, also, men entirely ignorant as to matters of agriculture, speculated in farms which they obtained by having interest with the amils; and this practice seems to have been countenanced by the Government, for which the reason assigned is that the farmers paid their revenue by anticipation, and bore the risk of all balances due to themselves by their under-renters. The result of this impolitic system, adopted to supply the immediate exigency of the Government, has been that a few individuals have grown into importance, while agriculture has been gradually on the decline, and a great part of the labouring class of zamíndárs are so much depressed as to be destitute of means to undertake the cultivation of their own lands. Such is the depressed state of the zamíndárs in general that many from want of means to perform the business of cultivation, and others from want of confidence, forego the probable advantages to be derived from managing their own lands for the certainty of sharing a stipulated part of the produce; and I have to regret that the inducements I could offer consistently with my duty have so seldom prevailed over the objections of the zamíndárs that where an actual proprietor relinquished his claim to be considered as a principal in the settlement, his lands were let in farm." However this may be true of the greater number of the farmers mentioned, it would appear that the Sayyids of the Bárha became over-lords and real proprietors in the eastern portions of the district long before the Marhattas occupied Muzaffarnagar, and the change in proprietorship was due to the grant of *jadedds* and to the election of one man out of many as *mukarariddár*, a single individual being more convenient for military purposes than a community, and more likely to furnish his quota of men and money. With all the horrors that overwhelmed the upper Duáb during the last century, famine, anarchy, the marching about of contending armies both Rohilla, Sikh, Marhatta and British, it is hardly necessary to attribute the depressed condition of the agricultural body to the bad system of the Marhattas alone. Neither individual cultivators nor communities could accurately gauge the amount of success which gave a claimant the rights of a *de facto* ruler, and they were only too glad to acknowledge any one who had power enough to protect them: hence the great influence of men like the *mukarariddárs* and the growth of their nominal possessions.

The first triennial settlement for 1213-15 *fasli* was prefaced by the issue of instructions to the tahsildárs to draw up a *dawl* or estimate of the produce and its value, which was made in presence of the landholders and forwarded to the Collector, but as this account was made before the *rabi* crops had been sown, it was necessarily imperfect. It was useful, however, for the rain crops, *kangni*, maize and *bájra*, which, according to local usage, were divided into three classes, and revenue was levied on

these classes alone, and not according to the market value of each particular grain. The Collector went on tour in November, 1805, and thus describes his mode of assessment :—“On my arrival in each parganah I was attended by the tahsildárs and local officials, whose reports on the actual produce of the mahál were received and compared with those of former years ; and taking into consideration the nature of the season and other circumstances, I was enabled thereby, and from my own observation, to calculate what revenue the parganah could bear. I then received the proposals tendered by the zamíndárs individually (to whom the terms prescribed for the settlement were fully explained), which were compared with the amount yielded in former years agreeably to the patwári's accounts and the difference ascertained ; and in cases wherein the offer did not come up to what was expected, and a zamíndár made objections to what I considered a fair and equitable assessment, recourse was had to actual measurement of his crops, and the assets having been ascertained, his right and that of the *sirkár* were defined and settlement of the estate adjusted accordingly. This investigation, which I consider every landholder has a right to expect, was undertaken in every doubtful case, not more with a view to his satisfaction than to my own, and the result frequently proved the necessity of the measure. This mode, which I have had the honour to state as having been adopted in the settlement of one parganah, was extended throughout the district.” Taking into account the great difficulties that he had to contend with, the Collector's assessment was wonderfully fair, and with the imperfect knowledge of the capabilities of each estate was just alike to the landholder and the State. Wherever any doubt occurred, it was ruled in favour of the landholder, but never to such an extent as to unduly lower the revenue. The revenue assessed was, as a whole, a very high one, for but little increase was attempted for many years, and in some cases it was found necessary to grant remissions or suspensions of the Government demand. Years of distress arising from drought also occurred, and in a waterless tract like the district, as it then stood, the suffering must have been intense. The details of the assessment are given under the Saháranpur district notice.

About the middle of 1805, the parganahs under charge of the Resident at

The Dehli parganahs Dehli were transferred to the Collector of Saháranpur.
given over to Saháranpur.

It appears that these parganahs were for a time under the charge of Begam Sumru, and in reviewing her accounts, the Collector asked for explanation as to the highness of the charges for collection. “To this she replied that while the parganahs were under her charge the Marhatta war existed, that no zamíndár paid rent willingly, but attempted in proportion as they had means to withhold the dues of the *Sirkár*, which is ever the practice in troublous times. Therefore, she was obliged to hire half the inhabitants of a village as matchlockmen to keep the rest in subjection. That while the war lasted

her chief object was to maintain the British authority." Mr. Guthrie corroborates this statement and says as to his own operations that "until Colonel Burn's detachment marched to Saháranpur I found it impossible to realise the revenue or conclude the settlement." He adds;—"I shall make no other remark upon the agreement concluded between me and the Begam than that I am convinced her sincere and avowed attachment to Government will be very beneficially felt in the Duáb."¹ The lands held in farm by the Gújar and other *mukararidárs* were continued to them, and they agreed to abstain from collecting transit and bazar duties within their respective grants, and for this neither asked nor received compensation. In the Aligarh district, however, considerable sums were paid on this account to the Rajas of Háthras and Mursán.

The second triennial settlement from 1216 to 1218 *fasli* (1808-09 to 1810-11 A.D.) is thus alluded to in the report of the Second triennial settlement. Commissioners on the first quinquennial settlement (1223 to 1227 *fasli*):—"The former settlement from 1216 to 1218 *fasli* which was intended to have been permanent under the option given to the landholders by Regulation X. of 1807, had, in fact, expired in consequence of the refusal of the authorities in Europe to sanction such permanency, and a resettlement for four years from 1219 to 1222 ought probably to have been, therefore, made in recurrence to the original enactments of section 5, Regulation IX. of 1805. But as Regulation X. of 1812, which announced that refusal, contented itself with providing, prospectively, for the settlement to be formed on the expiration of the decennial period from the conquest, we availed ourselves of its silence in regard to any intermediate measures to leave the former settlement undisturbed. The Collector, Mr. Oldham, accordingly confined himself to the resettlement of the lapsed farms and of those few estates the proprietors of which declined to abide by the existing assessment under the option reserved

¹ On the Begam's conduct at this crisis Mr. Williams has the following note:—"The Begam, Sumru herself, a person who in after life traded on that virtue with great profit, gave Colonel Burn (see "History" *postea*) the cold shoulder. The service she had rendered Mr. Guthrie cannot have been disinterested. It was simply something that might be appealed to in proof of her devotion to the British Government, in the event of its ever becoming firmly established. She had shown the same unerring judgment in every previous political crisis, and when the tide turned unmistakeably, she made great capital out of the Collector's well-timed rescue. But the moment for a decisive display of loyalty had not yet come, and her attitude after the relief of Saháranpur was so threatening that Colonel Burn found it necessary to suspend active operations and stand on the defensive. While he was busy with the Sikhs, she was entertaining Holkar's vakils, as well as those of Ranjít Singh, who had also joined the Marhatta confederacy, and although she had sufficient discretion not to compromise herself irrevocably, she actually moved out from Sardhana with hostile intent at the head of eight battalions, 1,000 horse, and 45 pieces of artillery. So little did her European officers trust her that they applied to Colonel Burn for protection, and there can be no doubt that the fall of Díg alone prevented her from openly declaring against us."

to them by Regulation X. of 1807. But these partial arrangements were not submitted to Government as they had effected very little modification of the settlement, except in regard to the admission of new parties to the engagements for these particular estates." This settlement appears to have been a very heavy one, and led to much and many transfers, especially in the Ganges-Káli Duáb. Assessments and drought between them made the year 1223 *fasli* a memorable one for the people of this district. As no general settlement was formed in the conquered provinces for 1219 to 1222 *fasli*, we next come to the account settlement of the first quinquennial settlement, or that for 1223 to 1227 *fasli* (1815-16 to 1819-20 A.D.)

As the greater portion of the district might be considered to have voluntarily abided by the assessment of 1218 *fasli*, and at the time of their abiding by it to have contemplated it as a permanent obligation, so the Board of Commissioners were not prepared for a general decrease at the quinquennial settlement. In parganah Dádri, where Mr. Salter had settled the lapsed *mukarari* of the Gújar Ráo Ajít Singh in 1813, "some changes were expected," write the Commissioners, "but the revenue of the district at large had always been collected, and had led us to repose the greatest confidence in the accuracy of the original settlements formed by Mr. Dumbleton in 1808-09 A.D.; we must therefore confess our disappointment in the result of the settlement accounts (1223-27 *fasli*) now submitted." On receipt of the accounts Mr. Calvert, already in charge of the northern division, was directed to revise the settlements of some of the principal parganahs, but Mr. Calvert's other duties, his long indisposition and subsequent decease, prevented the revision, and the Board was obliged to submit their report in 1819 without attempting any revision. The aggregate assessment for the triennial settlement ending in 1218 *fasli* showed a revenue of Rs. 11,28,243 for the southern division of Saháranpur and Rs. 12,05,679 at the end of 1222 *fasli*. The difference of Rs. 77,436 after deducting Rs. 58,160 for the increase on the lapsed *mukarari* of Dádri, gave a net increase of Rs. 19,276 on the partial resettlements made by Mr. Oldham. The total demand for the five years of the quinquennial settlement was—1223, Rs. 11,10,682; 1224, Rs. 11,29,225; 1225, Rs. 11,45,896; 1226, Rs. 11,63,308; and 1227, Rs. 11,88,864, being a decrease of Rs. 94,997 in the first year and of Rs. 16,815 in the last year, and if the parganahs in which an increase was obtained be deducted, the abatements in the first year amount to Rs. 1,08,327. The remissions were, however, individually small except in Dádri and Dásna, where they amounted conjointly to Rs. 66,735 in the first year and Rs. 40,233 in the last year of the first quinquennial settlement, and they would appear from Mr. Shakospear's explanations to have occurred in the rest of the district from the temporary circumstances of the unfavourable season during the formation of the settlement. The single

parganah of Meerut was settled previously to these circumstances having declared themselves at an increase, and although the increase of Rs. 14,404 in the first year was not realized, but, on the contrary, a further balance accrued to an amount of Rs. 48,454, the realization of the entire demand in the subsequent years, with the progressive increase rising to Rs. 20,481 in the fifth year, gave the Board reason to suppose that the rest of the district might in general have similarly been made to yield an improved revenue, notwithstanding temporary causes which influenced the assessment of the first year. The rest of the arrangements merely re-established the assessments of the former settlements. The whole of the settlements were made at a progressive assessment, and the Board saw no good reasons for dispensing with the increase in any instance, however objectionable on general principles.

I will now give the details of this assessment for all the parganahs then comprising the southern division of the Sahāranpur district, as containing valuable information not only in regard to the settlement itself, but as to the constitution and area of the different parganahs and other local sub-divisions which descended to us from the previous governments, and which have since been so ruthlessly broken up in the various organization schemes that have been sanctioned since the conquest.

Meerut Parganahs.

Parganah in 1816.	Villages.	Estates.	Area in bighas.			Gross produce.	Net produce.	Revenue of			Now in
			Cultivated.	Culturable.	Barren.			1222.	1223.	1227.	
						Rs.	Rs.	Rs.	Rs.	Rs.	
Ajrāra, ...	16	9	16,046	5,915	5,094	14,355	12,605	16,457	15,431	16,632	Sarāwa.
Bāgpat, ...	190	147	87,011	79,960	1,05,982	1,16,329	1,12,352	1,10,453	1,08,841	1,12,905	Bāgpat.
Bhojpur, ...	16	12	4,527	1,547	2,24	5,045	4,436	10,738	10,320	10,940	Hāpur.
Chhaprauli, ...	13	18	21,414	10,795	10,490	37,829	33,534	38,096	35,590	36,87	Chhaprauli.
Dādri, ...	165	134	48,347	84,997	43,682	83,945	73,915	86,161	80,662	68,621	Dādri.
Dāsna, ...	157	144	59,869	70,230	81,437	1,25,515	1,12,054	1,22,258	91,022	1,04,565	Ghāziabad.
Garhmuktesar, ...	133	86	56,974	53,895	52,919	38,516	35,279	43,890	41,792	47,002	Garhmuktesar.
Hāpur, ...	111	83	45,341	30,395	35,978	53,478	47,574	53,042	48,654	53,250	Hāpur.
Loni, ...	106	80	39,570	35,550	43,858	36,775	33,636	37,076	36,382	38,520	Loni.
Meerut, ...	250	214	160,598	46,649	108,416	2,32,412	2,00,774	2,13,021	2,27,425	2,33,504	Meerut.
Niloha, ...	34	39	23,806	8,619	9,762	25,725	22,055	27,727	27,468	28,768	Hastinapur.
Shakrpur, ...	54	6	19,144	28,003	19,120	21,055	19,191	19,256	18,732	20,429	Various.
Sarāwa, ...	72	55	32,266	19,587	32,413	32,726	29,635	32,754	31,315	28,356	Sarāwa.
Tikri, ...	2	8	5,711	171	1,504	16,767	14,446	13,100	12,849	13,107	Barnāwa.
Tārāpur, ...	2	3	252	1,590	1,675	144	133	200	125	150	Hastinapur.
Jalālabad, ...	94	42	48,388	20,580	31,565	52,076	47,512	47,967	47,060	50,337	Jalālabad.
Tanda, ...	10	9	8,078	3,168	1,765	16,300	14,060	12,431	12,131	12,616	Chhaprauli.
Total, ..	1,425	1,089	678,337	501,641	587,819	8,97,996	8,13,392	8,84,127	8,15,802	8,66,509	

Muzaffarnagar Parganahs.

Parganah in 1816.	Village.	Estates.	Area in bighas.			Gross produce.	Net produce.	Revenue of			Now in
			Cultivated.	Culturable.	Barren.			1222.	1223.	1227.	
						Rs.	Rs.	Rs.	Rs.	Rs.	
Bhūma, ...	13	20	7,934	15,826	6,873	5,106	4,550	6,028	5,223	5,816	Bhūma.
Baghra, ...	37	35	30,802	13,508	18,220	28,767	25,085	32,427	30,256	32,461	Baghra.
Gangirū, ...	2	4	3,527	4,366	5,326	4,567	3,962	3,915	3,540	3,980	Kāndhla.
Jauli, ...	19	12	9,877	20,499	6,459	5,151	4,610	6,190	4,939	5,810	Jānsath.
Kāndhla, ...	41	12	25,240	28,660	18,630	48,517	42,703	39,055	1,37,885	40,325	Kāndhla.
Kairāna, ...	25	31	18,652	16,624	21,595	21,220	18,602	19,083	17,799	19,005	Kairāna.
Khātauli, ...	79	78	69,201	31,972	33,076	46,879	42,186	52,289	45,708	47,669	Khātauli.
Lānkhera, ...	6	6	5,822	953	539	6,750	5,970	5,875	6,011	6,171	Baghra.
Phugāna, ...	7	10	9,373	5,175	3,565	15,392	13,519	14,200	13,950	14,240	Kāndhla.
Shikārpur, ...	43	44	48,987	12,260	24,091	72,875	65,866	60,012	58,767	60,950	Shikārpur.
Shāmli, ...	21	24	27,197	4,760	15,071	50,500	44,222	41,893	36,398	39,567	Shāmli.
Soron, ...	6	6	12,276	1,335	5,472	17,200	15,550	14,361	13,926	14,590	Soron.
Sambal-hera.	16	16	11,553	13,523	18,011	6,675	5,914	7,415	6,210	7,031	Bhūma.
Titarwāra, ...	8	9	7,435	7,611	4,240	12,667	11,163	10,706	9,765	10,307	Kairāna.
Total, ...	323	307	272,876	177,052	181,268	3,42,266	3,04,002	3,13,404	3,30,377	3,07,922	

Mr. Shakespear, who is rather depreceated by Mr. E. Colebrooke, and regarding whose assessment Mr. Holt Maokenzie says that it was so unsatisfactory as to require revision, was almost certainly right although he had not the faculty of justifying his proceedings.

In regard to parganah Bāgpat,¹ the Collector excused the decrease in the year 1223 *faski* on the grounds that the settlement of the parganah was attended with greater difficulty than that of any other; "not so much from the sufferings occasioned by calamitous seasons, although many villages had strong and well-founded claims to indulgence, as because of the refractory spirit of the zamindārs, who being well convinced that no one would dare to take their villages in farm, were with difficulty brought into any terms but their own, and the settlement had to be concluded on the only and best terms that could be procured under the urgency of a calamitous season." The Board, naturally enough, objected to these reasons for a decrease, and in their instructions to Mr. Calvert remarked, "that neither the number nor the amount of the abatements which had been allowed in this parganah would have called for any remark, although the settlement in general had

¹ Parganahs Bāgpat and Dāsna are now in the Meerut District and Dāuri is in Bulandshahr, but an account of them during this settlement naturally falls under the general notice of the southern division of Sahāranpur which is given here.

disappointed their expectations, if this result was not ascribed by the Collector himself rather to the refractory disposition of the landholders than to any want of resources to meet the requisition of a considerable increase, and that such a reason for surrendering the just dues of Government was not only unsatisfactory in itself, but must tend to encourage and diffuse a similar spirit from the example of successful opposition; that the same reasons having been assigned for the very large balance which had accrued on the first year's assessments to an amount of Rs. 40,055, the difficulties would progressively increase, and the realization of the assessments, however light, would be daily more precarious, if this avowed disposition to resist or evade the public dues should be thus submitted to instead of proper measures being adopted for the counteraction of it."

Some alterations were expected in Dádri in the newly-settled villages of Dádri and Dásna. Ajít Singh's *mukarari*, but the Board never anticipated that the decrease necessary would amount to one-half the revenue. They write that "they had seen no grounds in the result of the collections for a period of seven years or from any reports of the Collector, Mr. Shakespear, to look for a defalcation of an entire fourth on an assessment which, in fact, had been paid from the first introduction of British government." In Dásna the Collector excused the decrease on the grounds of the parganah having suffered most severely from drought, "that the settlement was concluded in an unpropitious year, succeeding one that had been still worse, added to the ruinous over-assessment of 1218-22, had occasioned a great but reasonable diminution of the revenue; that villages offered for sale on account of arrears found no purchasers, and that farmers offered much more than they could collect and fell into balance." The Board expressed their desire not to require the highest revenue obtainable by competition or by means not referrible to the actual resources of the tract, and were obliged, though unwillingly, to accept the arrangements made. In the other parganahs the remarks of the Commissioners affect only individual villages, and are not of general interest.

The first quinquennial assessment was extended for a second period of five years (1820-21 to 1824-25 A.D.) in every district except Moerut by orders of Government in 1818 A.D.

Second and third quinquennial settlements.

It was during this time that the nucleus of the present district was formed by making Muzaffarnagar the head-quarters of a separate sub-collectorship consisting of ten parganahs, to which seven were subsequently added from Moerut. Mr. W. Dundas took charge of the new district in March, 1824. Two years afterwards the district became the separate charge of a full Collector-Magistrate. In the meantime Regulation VII. of 1822 was passed and attempted to remedy the existing state of confusion as to rights and liabilities by introducing a more accurate and elaborate system of record, but nothing was done until 1825, and so cumbrous was the machinery then employed that

it was found necessary to direct that wherever the inquiry contemplated by the regulation was not completed, a third summary settlement for the years 1825-26 (1233 *fasli*) to 1829-30 A. D. (1237 *fasli*) should be made until such time as the revision was completed.¹ This settlement practically remained unaltered until the revision by Mr. E. Thornton in 1838-41 was effected under the provisions of Regulation IX. of 1833.

Steps were taken to commence the settlement under Regulation IX. of 1833 as early as 1836, when Mr. Dick commenced the settlement. Mr. E. Thornton's settlements, but the entire district was remeasured by Mr. Thornton in 1838-39 and distributed into circles containing soil of a similar quality. For these circles, average rent-rates were obtained which formed the basis of the assessment. In his treatment of irrigated, or rather irrigable land, Mr. Thornton differed from many other officers. He distinguishes the land actually irrigated during the year of measurement from the land irrigable but not irrigated from wells, or canals, calling the former *chāhi*, and the latter *mukhta chāhi*. His arguments were that "the *rabi* crop of the past year is succeeded by the *kharif* in the present, and it is not customary to water the *kharif*, so of that land round a well which is all of that watered in the course of two years only half is irrigated in either one year." This distinction between *chāhi* and *mukhta* was rendered desirable, in his view, in order to get at the real produce of the year. Where money-rents are paid the average rent is to be looked for, but here, where kind rates prevailed, it would have been unfair to have assumed the produce of irrigated land for all the land watered in that year and also for all the land watered in previous years, but not in the year of measurement. The produce of the *mukhta chāhi* land was then calculated as if unirrigated and added to the former and the average of both was taken as the resultant produce of irrigable land. Moreover, the actual amount of land irrigated from a *kuchcha* well was not exclusively considered, but the existence of a substratum which admitted of such wells being reasonably and cheaply made was taken into account. The highly manured and cultivated area close to the village site known as *misan* or *bérah* was separately calculated, and so much of it was assessed as *misan* as came up to the average proportion of that class of land to the entire holding (16·5 per cent.), whilst the remainder was entered as *rausli* as some reward for the cultivator's extra industry. In deciding upon this principle of action the unequal state of the cultivation and the pressure of the assessment in individual villages were found to be great obstacles to an equal distribution of the demand. The effects were still visible of the former Government having asserted an absolute

¹ Some account of Mr. Cavendish's revision under Regulation VII. of 1822 in the year 1825 will be found in Mr. Holt Mackenzie's letter in *Sel. Rev. Rec.*, 1822-33, p. 84; Allahabad, 1872. Detailed accounts of the revision in 1820-21, of which I have failed to obtain the general report, are contradictory. In some villages the revenue was maintained throughout, and in others there was a progressive increase said to have been made by Mr. James Fraser.

proprietary right in the soil, and having exacted a full rent from the humbler classes, while it showed peculiar consideration for many of the higher ranks and lowered the demand on them to really a very small sum. Many of the higher classes had no capital to assist their tenants, and, at the same time, were not able to resist the temptation of exacting the highest rent they could get, so that, in many places, agriculture was in a very depressed condition. In many villages the former revenue was assessed at a cultivating rate, and here the now demand was reduced so as to leave a fair margin of profit to the proprietors.

Having fixed on homogeneous circles according to soil, the next step was to ascertain fair average rent-rates for each class of soil. To accomplish this, a rental was formed for the whole cultivated area of each denomination of soil in each circle by applying average money-rates to the whole extent of each kind of crop found in that denomination, and then this rental was divided by the sum of the cultivated area of that particular denomination of soil. The result obtained was taken as the average rent-rate for that class of soil in that particular circle. The discovery of the money rates for each kind of produce was a work of some difficulty, for most of the tenures were *bháyachára*, where no rent was paid, and even where rent was paid, it was, as a rule, taken in kind and not in cash. The only exception to the prevalence of a kind-rate was in the case of sugar-cane, cotton, fodder and maize known as *zabti* crops, for which money-rates were, by custom, always paid. In the case of rent paid in kind, the entire produce of the field was first correctly ascertained, and one-tenth was struck off in lieu of wages for cutting and clearing, then from each remaining maund the landholder was held to take, in *mísan* soil, 18 sers; in *rausli*, $17\frac{1}{2}$ sers; in *dákar*, 17 sers; in *bhúr*, $15\frac{1}{2}$ sers, and in *danda*, 14 sers. To this calculation was applied the average prices ruling, and thus an average rent-rate was obtained. The average *zabti* rates per acre were sugar-cane, Rs. 14-7; cotton, Rs. 6-6-5; fodder, Rs. 2-6, and maize, Rs. 3-3-6. In deducing these rates a proportion of three biswas per bigha was allowed for failure of crop, being the average found to have been actually allowed over a large area. The amount of *rabi* produce was calculated by selecting three or four villages in each circle and estimating the actual produce of the standing crops field by field. The total produce of each crop in each class of soil was then divided by the number of bighas of that denomination of soil, and the result was an average produce-rate per bigha for each crop in such class of soil. And in addition, average produce-rates were compiled from the village accounts of division of crops for a period of fourteen years. The *kharif* rates were entirely derived from the latter source. The actual produce having been found, the average of the money-rates for the previous twenty years was then applied to the produce totals to give the estimated rental, and the revenue-rates were found by deducting 35 per cent. from

the average rent-rates. The result of the assessment of the portion of the district settled by Mr. Thornton was an increase of the revenue from Rs. 5,83,937 in 1838 to Rs. 6,72,740 in 1859-60, or taking resumed revenue-free lands into account, to Rs. 7,03,544. Parganah Thána Bhawan was settled in the Saháranpur district by Mr. E. Thornton in 1838-39, before its transfer to this district in 1842.

Parganahs Bhúma Sambalhera, Kairána, Kándhla, and Shikárpur were settled by Sir H. M. Elliot whilst still in the Meerut district, and parganah Budhána, which formed a part of Begam Sumru's *jágr*, was settled by Mr. T. C. Plowden. Sir H. M. Elliot had much difficulty in ascertaining the rent-rates which formed the basis of his assessment. Throughout Meerut, as in Muzaffarnagar, rent in kind prevailed and where cash-rents were customary, they were formed merely by distributing the Government demand by *báchh* over a certain number of bighas. Unlike Mr. Thornton, Sir H. M. Elliot, in a great measure, disregarded soil distinctions and adopted a parganah rate for irrigated and unirrigated land alone. This rate was formed by converting the average produce rates of wet and dry soils¹ into money-rates at the average market-value of the day and testing the result by the statistics of rent-suits, the close examination of standard villages and personal inquiries. The averages on the total and the cultivated area were then drawn out, and wherever they appeared exorbitantly high or unreasonably low, a local inquiry was held to ascertain the cause of these inequalities. Regard was also had to circumstances which should have due influence in fixing an assessment, such as the state of the village, whether deserted or in good repair; the prevalence of cultivation by non-resident tenants (*pahikásht*); the amount of culturable waste; facility of land or water carriage; the past fiscal history; the nature of the soil; the caste of the cultivators; the depth of the water from the surface; the unanimity or discord of the community; the population generally; previous transfers of rights, and the nearness to markets. All these matters were taken into consideration before assessing the Government revenue. Mr. T. C. Plowden's mode of assessment is described under the Meerut district. Both these settlements were confirmed for a period of twenty years, and during their currency worked very well. The following table shows the demand, collections, and balances for the four years preceding the revision in 1860-61:—

Year.	Demand.	Collections.	Balance.	Year.	Demand.	Collections.	Balance.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
1856-57, ...	11,12,029	11,10,507	1,523	1858-59 ...	11,17,633	11,08,186	9,317
1857-58, ...	11,13,049	11,02,837	10,212	1859-60 ...	11,17,804	11,08,432	9,371

¹ In most of his assessments he appears to have had no soil records to go on, but where he had them, he took them into consideration. I., Set. Rep., 180, 204.

Mr. Thornton's assessments were, as a rule, moderate, but Messrs. Plowden's and Elliot's were generally full, and in the case of cultivating communities mercilessly so; but Mr. Thornton only took 65 per cent. of the assets, while the latter officers looked to 80 per cent. as their standard.

Preparations for the new settlement commenced in April, 1860, under Mr. H. G. Keene, with Mr. A. Colvin and Rái Nának

New settlement, 1860-63.

Chand as his assistants. Mr. Keene left the district on furlough after having assessed parganahs Gordhanpur, Budhána and Shikárpur, and was succeeded by Mr. S. N. Martin, who completed the settlement. Mr. Martin himself assessed parganahs Muzaffarnagar, Baghra and Púr Ohhapár. Mr. A. Colvin assessed parganahs Bidauli, Kándhla, Kairána, Shámli, Jhanjhána, Thána Bhawan and Chartháwal, and Mr. C. Grant assessed parganahs Bhukarheri, Bhúma Sambalhera, Jauli Jánsath, and Khátauli. The final report was received in 1867. When the settlement operations commenced the dis-

State of the district in 1860-61.

trict had not recovered from the effects of the mutiny. "The returns of 1866," writes the Commissioner, "confirms the fact shown in the revised settlement returns, that when the revision was in progress there was a marked diminution of the agricultural population as compared with the number in 1853. This may be ascribed to the disturbances of 1857 and the famine in 1860-61. In the first many were killed in fights among the people themselves, many absconded and have settled in other parts of the country, and an inconsiderable number fell in engagements with the troops. But the decrease principally occurred owing to the famine. In spite of the exertions made to save life and support the distressed population, there is no doubt that a large number died of destitution and consequent sickness; many removed to districts not affected by the drought; and though, perhaps, most of these have returned, some remained in their new homes. The non-agricultural population was less affected, because, in the anarchy, the large communities were not so open to attack as small villages, and were more easily assisted by the authorities; and in the famine¹ measures for relief could be better organized,

¹ See further under "Famines." The loss to the district by the mutiny seems to me to be much overstated by Mr. Williams. He assumes the figures of the census to be absolutely trustworthy, but the details of even those of 1865 and 1872 are not so. The totals of the latter two enumerations are fairly correct, but the discrepancies in details are irreconcilable. In 1865 the day-labourer class was called agricultural, and in 1872 non-agricultural. Five hundred would cover the numbers killed or hanged during the mutiny, and since then the railway has brought many labourers into the district. The famine certainly caused some loss and some emigration took place, but almost entirely within the district. It is a mistake to suppose that the agricultural population is more affected by a famine than the non-agricultural. When a village is deserted the weaver goes first, then the Chanár, and last of all the actual cultivator. The villages of the Thána Bhawan parganah are the only ones, except, here and there, a few villages in the Gangas *khádí*, that were seriously injured by the mutiny, and on the Jumna, the lawlessness of the Gújars will account for the state of Bidauli.

and were therefore more successful in towns than they could be in scattered hamlets." In addition to famine, towards the close of the year, cholera made its appearance and swept over the western parganahs of the district. It was with a district weakened by war famine and pestilence that the settlement officers had to deal. As we have seen, cultivation had decreased in several parganahs: in Thána Bhawan by 8·7 per cent., and only 70·8 per cent. of the assessable area was cultivated; in Jhanjhána there was a decrease of 15·4 per cent. in cultivation, showing only 56·8 per cent. of the assessable area under cultivation; in Bidauli the figures were 17·1 per cent. and 49·9 per cent. respectively, and in Kairána 15·5 and 67·8 per cent. Taking the whole district, the land-revenue by the settlement of 1840 amounted to Rs. 11,19,839 at an assessment based on 66·66 per cent. of the assets, and had the assessment been at half assets the Government share would have been only Rs. 8,39,879. At the revision in 1860-62 by Messrs. Keene, Colvin, Grant, and Martin, the demand was fixed at Rs. 11,40,644, giving a potential increase of Rs. 3,00,765 and an actual increase of Rs. 20,805 on the previous assessment. This enhancement is attributed to the increase in the total cultivated area, the resumption of revenue-free grants and the great advance in canal irrigation. Rents, whether in cash or in kind, would appear to have remained almost stationary during the currency of Mr. Thornton's settlement, while prices rose a little and the average amount of produce raised from a given area, the mode of cultivation and the proportion of each class of crop grown had not materially altered in 1861. Omitting the six parganahs, the revenue of which was revised by Mr. Cadell, and parganah Gordhanpur, reported on by the same officer, the former demand amounted to Rs. 7,60,692 and the revised demand to Rs. 7,41,773, showing an increase, if assessed at two-thirds of the assets as before, of Rs. 1,71,254 and an actual decrease at half assets of Rs. 18,919 on the previous assessment. I shall now give the results of the revision in 1861 and Mr. Cadell's revision of a portion of the district. The statistics of area for the ten parganahs the revision of which in 1860-62 was confirmed are given in detail under the district notices.¹

The mode of assessment adopted by Mr. Keene appears to have been as follows:—The total area and rental for five years were obtained from the village papers, and the latter was divided by the former, thus giving a produce value which applied to the cultivated area at settlement gave what corresponded to the estimate of the village accountant of the old surveys. Again, where rent was paid in kind, average rates were formed by the application of Mr. Thornton's previous appraisement to the mean area devoted for five years to the various crops for which rent was paid in kind. This result was added to the average rates for crops for which rent was paid in cash, and in calculating the market value of grain the average prices for

¹ See also page 350.

ten years preceding the drought of 1860-61 were taken. Again the circle rates of the previous settlement were applied to the soil area of the new survey and the result was compared with the produce rates already ascertained. Mr. Keene adds:—"Finally, I have found in working after such men as Elliot (H. M.) and Thornton that a proportional increase on their rent-rolls, with a due allowance for the advance of prices since their day, will often yield a sum curiously corresponding to the results of other and quite independent estimates."

Mr. Colvin, whilst basing his assessment mainly on the same system, found reason to alter the process in various parganahs. In Bidanli there was an all-round rate on the culturable area. In Thána Bhawan, at the time of survey, cultivation was almost entirely confined to the irrigated tracts, and there the crops were exceptionally rich. Mr. Colvin's soil rates were there checked by the rates adopted by Mr. Thornton for the neighbouring circles. "The cash rents found existing for the several classes of crops paying in cash were applied ordinarily to the area in each circle occupied by their respective crops. To the area occupied by crops paying in kind, estimates of the produce were applied with the value of the landlord's rent expressed in money. Mr. Thornton's revenue-rates were also used, Mr. Keene enhancing them in the parganahs assessed by him in the proportion in which he believed prices to have risen." The summary rates used at the last settlement on irrigated and unirrigated land were also referred to. Messrs. Martin and Grant seem to have adopted the same procedure; in fact, all through the principles and data given by Mr. Thornton in his settlement report in 1841 were accepted, and form to a great extent, the basis of the revised assessment. The following statement shows the results of the revision in 1860-2, which have not yet been sanctioned by Government:—

Parganahs.			Old demand.	New demand, 50 per cent.	Old rate on cultivation.	New rate on cultivation.
			Rs.	Rs.	Rs. a. p.	Rs. a. p.
Shikárpur,	...	...	1,06,052	1,03,301	2 6 7	2 2 1½
Budhána,	...	...	75,017	69,846	2 3 7	1 15 8
Shámli,	...	...	1,20,316	1,20,057	2 10 0	2 10 3
Kairána,	...	...	49,571	52,307	1 11 2	1 8 10½
Kándhla,	...	...	1,00,759	1,11,410	2 4 8	2 3 5
Baghra,	...	...	86,362	81,691	2 3 0	1 15 11
Chartháwal,	...	...	65,410	61,257	1 10 5	1 6 1
Thána Bhawan,	...	...	56,244	57,081	1 13 7	2 0 11
Jhanjhána,	...	...	63,056	65,698	2 2 1	2 4 3
Bidanli,	...	...	37,905	29,125	1 8 5	1 6 8
Total,			7,60,692	7,41,773	2 1 6	1 15 1

Some short time after the revision had been completed, and before the final report had been submitted, the Secretary of State's despatch of 1865 arrived and necessitated an examination of the settlement papers in order to ascertain what estates were eligible for permanent settlement under the rules. This examination was carried through at once, and with the exception of parganahs Bidauli and Gerdhanpur and certain estates liable to fluvial action, the great majority of the estates which shewed 80 per cent. of their culturable area under cultivation were recommended for permanent settlement. In seven estates an enhancement of Rs. 555 was recommended, and in 21 estates it was proposed to raise the revenue from Rs. 20,029 to Rs. 21,718 preparatory to declaring the assessment perpetual. The general result of Mr. Martin's recommendations and examinations was as follows:—

	No.	Revenue. Rs.
Estates altogether qualified, the proprietors of which accept the terms offered,	755	8,72,581
Ditto, the proprietors of which refuse,	60	92,197
Total qualified estates,	815	9,64,778
Estates with excess of culturable waste, the enhanced revenue of which was accepted by the owners, ..	21	20,730
Total estates pronounced fit for permanent settlement,	836	9,85,508
Estates with excess of culturable waste, the proprietors of which refuse to accept terms,	93	71,466
Excluded as unfit for permanent settlement,	190	66,093
	283	1,37,559
Enhanced revenue of seven under-assessed estates, ...	7	555
Total enhancement proposed,	21	1,689
	28	2,244

A second despatch, imposing additional conditions before permanency could be granted, was received in 1867, and in 1868, Mr. A. Cadell was deputed to make the necessary inquiries. I give Mr. Cadell's account of his proceedings in his own words:—"The first step was to make out lists of estates with less than 80 per cent. of the culturable area under cultivation. Parganahs Gerdhanpur and Bidauli and the river valleys were also excluded on account of their exceptional position or circumstances, and the regular investigation extended only to estates which were returned as generally qualified under the 80 per cent. rule. With reference to the vast majority of these it was found that either there was a probability of the introduction or extension of canal irrigation, and a consequent important increase of the assets or that the assessment was so low that permanent settlement could not be recommended. In the nine parganahs lying to the west

of the west Káli river, out of 579 revenue-paying estates, 395 were eligible under the 80 per cent. rule; but only 78 were recommended for permanent settlement, and even with reference to them it was proposed that the permanent assessments should be stated in produce, the money value of which could be calculated anew at such intervals as Government might appoint. The revenue of these 78 estates amounted to Rs. 1,44,898, or about one-eighth of the demand for the whole district. In the Ganges canal tract lying to the east of the west Káli the assessments were found to be so generally low and unequal, that not only no recommendations were made for permanent settlement, but eventually the settlement of the upland portions of six parganahs was disallowed by Government Resolution No. 118B of the 25th March, 1870, and a revision of the Government demand, preceded by a testing and correction of the entries of soil and irrigation, was ordered to be taken in hand."

As to a permanent settlement, Mr. Colvin wrote, in 1861, that "a permanent settlement may do well, but any one who travels through this district, and listens to the tales of its condition forty years ago will confess that temporary settlements have done well too. The maps show how closely the villages lie together, and the census shows a population of 409 to the square mile. But neither map nor census can give an accurate idea of the teeming life, the innumerable wheat-fields, the long stretches of cane cultivation, the busy wells, the variety of large tracts of uncultivated land, the prosperous stir of villages and agricultural towns. The people say that, under a permanent settlement, if Government takes no increase, neither will it give any relief. They think, too, that when it ceases to be directly interested in the land, it will be averse to expending money on works for improvements in agriculture. Experience, they say, has taught them that the Government has been true to its word when it said they should be left alone for thirty years. They see that at the expiry of that term no greedy hand has been laid on their villages, and that Government did not hold off merely to grasp at the end. They acquiesce in and understand the re-adjustment of the demand, and hence they scarcely know whether to be more pleased at the advantages or frightened at the dangers of a permanent settlement." Nothing, fortunately for the country, has since, been done to carry out this idea of a permanent settlement which could possibly have benefitted no one but the money-lenders and land-speculators.

In October, 1870, Mr. Alan Cadell commenced the revision of the assessment of the parganahs watered by the Ganges canal, comprising Khátauli, Jánsath, Muzaffarnagar and the upland portions of Púr Chhapár, Bhukarheri and Bhúma Sambalhera. Before this revision had been completed, the portions of Bhukarheri and Bhúma Sambalhera situated in the Ganges *khádir* as well as those of Púr Chhapár and

Gordhanpur, bordering on the Soláni, had so deteriorated from the increase of marsh and *reh* that the assessments of many villages in these tracts had to be reduced. The revision leading to reduction was of a summary nature, and as the records were not recompiled, the statistics relating to the lowlands all through are those of Mr. Martin's assessment. As regards Gordhanpur and Bidauli some misapprehensions were felt as to whether the assessments of 1860-62 were to stand only for ten years as recommended by Mr. Martin or for whatever period might be sanctioned for the other parganahs. In Bidauli the settlement was allowed to stand as in the adjoining parganahs, and in Gordhanpur any alteration of the assessments as against the people was prohibited. In Gordhanpur, as in the adjoining parganah of Púr Ohhapár, the deterioration which began before the mutiny has continued ever since, due partly to the diversion of the course of the Soláni and partly, most probably, to percolation from the Ganges canal. The consequence of this is that in thirty-nine estates in Gordhanpur and in six estates in Púr Ohhapár annual assessments have become necessary. The assessments in Gordhanpur are noted under the account of the parganah given hereafter.

In the Ganges canal tract, the revision of settlement was regular and involved a complete reconstruction of the records. It was at one time hoped that the delay and expense of a complete regular revision could be avoided, but the settlement officer found it impossible to assess with confidence on areas which in some parganahs had been shown to be very erroneously recorded, and it was, at length, resolved to make a detailed settlement. Mr. Cadell, however, adopted the distribution of villages into circles made by his predecessors, and following so closely upon Messrs. Martin and Grant, he assessed the tract, parganah by parganah. This involved an amount of detail and repetition of objects and reasons which he, afterwards, came to consider excessive, and there seems little reason for adhering to this system of small parganahs hereafter. In the arrangement of villages by circles, the system of Mr. Thornton coincided generally with that of Sir H. M. Elliot and Mr. Plowdon, though the circles in the parganahs formerly assessed in the Meerut district were somewhat larger than those made by Mr. Thornton, but in the classification of soils there was much divergence. As already noted, Sir H. M. Elliot adopted a rate on wet and dry areas in the absence of any minute classification of soils, whilst Mr. Thornton framed rates for *misan*, *rausli*, *ddkar* and *bhár*, a system in which he was followed by Mr. S. N. Martin.¹ Mr. Cadell followed generally the example of Mr. Thornton in his soil distinctions, but he did not adopt Mr. Thornton's entry of *misan* as manured land. In his rent-rate report for Khátauli Mr. Cadell discusses the subject as follows :—"In thus departing from

¹ See page 347.

the system of Mr. Thornton, I think I have been justified by the experience of his successors, by the customs of the country, and by the success which both at the old and recent settlements had attended the more simple method of assessment in Meerut. In 1863 the soil classification of Mr. Thornton was strictly adhered to for the purposes of assessment, but when rents came to be fixed it was at once abandoned as impracticable, and rent-rates were fixed for irrigated land, for dry loam and clay, and for sand. There can be little question that in reverting to this simple classification Mr. Martin was in the main right; for the opening of the canal had in a great measure abolished the distinction between clay and loam, while, on the other hand, to have fixed higher rates for the so-called manured land would have been to adopt a system difficult of accurate application and opposed to the customs of the country; for the whole tendency of Ját and Ráwa cultivators is to secure a large average produce, rather than the excessive large average of a few fields. Instead of restricting high cultivation to a small area round the village site, the Ját of the upper Duáb grow the best crops in every portion of the township in which they live, and far beyond its boundaries; and as irrigation is nearly as necessary for high farming as manure, facilities for irrigation must be studied as well as vicinity to the homestead."

In this way the classification adopted at the revision was about half way between the ultra-simplicity of the Meerut system and the more detailed entries made by Mr. Thornton and corresponded very closely with the system adopted by Mr. Thornton in Saháranpur. The soils recorded were wet and dry, *bárah* or garden land, *rausli* or loam, second *rausli* or sandy loam, and *blúr* or sand. Of the *bárah* land there was only 0·05 per cent. on the total cultivated area, so that it was of use only for particular villages. The second *rausli* was designed to include all that land which combined some of the characteristics of both loam and sand. Mr. Thornton provided for such cases by ruling that doubtful cases should be classed with the inferior denomination, but, in practice, such rules are enforced with difficulty, and it has been found that the more the subordinate officials of the settlement are looked after, the more likely they are to show their zeal for Government, or rather to shield themselves from blame, by making their soil entries tell against rather than in favour of the people. Second *rausli* is a better soil than pure sand and the surveyor felt satisfied and secure in recording it, while the assessing officer could suit his rates to its value on inspection. Again, in the classification of villages, Mr. Cadell paid less attention than his predecessors to the situation and more to the quality of the estates. In each pargannah there were three circles comprising villages of the first, second and third class, and to each of these circles the rates given in the pargannah notices were applied for each class of soil. These rates, as far as the northern

parganahs are concerned, correspond generally with those assumed and levied in the parganahs of Saháranpur to the north, and those for the southern portions of the tract are borne out by the rates recently assumed for the adjoining parganahs of the Meerut district.

The assumed rent-rates gave the following results as compared with those of Mr. Thornton's and Mr. Martin's settlements, the rent-roll of the former being deduced from the assessments which are assumed to have been made at

Comparison with previous assessment. two-thirds the assets, and that of the latter being the result of the application of the assumed rent-rates to the

recorded soil areas :—

Parganah.	Assumed rent-roll in			Excess of 1872 over	
	1841.	1868.	1872.	1841.	1868.
	Rs.	Rs.	Rs.	Rs.	Rs.
Púr Chhapár, ...	85,401	1,44,848	1,31,776	46,375	—12,872
Bhukarheri, ...	73,958	1,31,232	1,48,885	74,427	17,153
Muzaffarnagar, ...	90,270	1,56,467	1,59,828	69,553	3,356
Khátauli, ...	1,00,461	1,22,997	1,92,497	92,036	69,500
Jauli Jánsath, ...	85,638	1,09,259	1,81,63	96,060	72,439
Bhúma Sambalhera, ...	54,776	71,296	95,246	40,470	23,050
Total, ...	4,90,804	7,35,899	9,09,425	4,18,921	1,73,526

The assumed increase to the rent-roll made by Mr. Martin amounted to almost exactly 50 per cent. of the rent-roll of 1841, whilst that by the rent-rates of Mr. Cadell's revision amounted to nearly 85 per cent. But when the figures for each parganah are examined, it is found that the calculations of Mr. Martin and Mr. Cadell for the three northern parganahs give a very similar result, whilst in the three southern parganahs, the assumed rent-roll by Mr. Cadell's rates exceed that by Mr. Martin's by no less than 54 per cent. In the northern parganahs Mr. Cadell's assumed rent-roll exceeds that of 1841 by 76 per cent., whilst in the southern parganahs the excess is no less than 94 per cent. In Mr. Cadell's opinion this, in a great measure, is due to the fact that Mr. Thornton's assumed rates were extremely low in parganahs Jauli Ján-sath and Khátauli, and are distinctly opposed to those fixed for the adjoining tracts in the Meerut district and to the facts recorded in the settlement papers. However this may be, it seems unquestionable that the rent-rates assumed by Mr. Thornton and Sir H. M. Elliot for very similar tracts cannot both be right, and the same may be said of those assumed in more recent years on either side of the district boundary, by Mr. Martin to the north and Mr. Forbes to the south.

In support of his estimate of increase in the rental assets, Mr. Cadell refers to a rough calculation of the increased rental due to the extension of irrigation and cultivation. In the northern parganahs, an increase in the area under irrigation of 61,256 acres would at the moderate rate of Rs. 2 per acre, recently assumed by the Board of Revenue for the calculation of canal profits, give an increase of Rs. 1,22,512, whilst the 23,046 acres of new cultivation would at a moderate second *rausli* rate of Rs. 2 per acre give a further addition of Rs. 46,092, making the old rental Rs. 4,18,233, or a little more than Rs. 20,000 below the rental by the assumed rates. In the southern parganahs, however, a similar calculation furnishes very different results. The extension of irrigation, at the same rate of Rs. 2 per acre, adds to the rental Rs. 79,486, and an addition of 19,528 acres to the cultivated area gives a further sum of Rs. 39,056, making in all Rs. 3,59,417, or Rs. 1,10,024 less than the assumed rental. It is true that the improvement in cultivation has been even greater in the southern than in the northern parganahs, and that while the additional rental due to canal irrigation can hardly, in the northern parganahs, be so much as Rs. 2 per acre, owing to the prevalence of poor soil; a slightly larger increase might be credited in the southern tract; still the effect of such modifications would be comparatively slight, and the broad fact remains that the rental now assumed for the southern tract is justifiable on general grounds, only on the assumption that the old rates were unduly low. The assumed rent-rates were based on rent-rates collected from villages throughout the six parganahs, and in their fixation the settlement officer was assisted by applications for commutation from rent paid in kind, to rents paid in cash, and by personal experience in the management of estates held under the Court of Wards.

These new rates were, on the whole, distinctly higher for the better and distinctly lower for the inferior soils than those assumed by Mr. Martin, and even by Mr. Thornton, and the largely enhanced rent-roll which they yielded was mainly due to the great change which had been worked in the condition of the land by the opening of the Ganges canal. In 1841, irrigation was general in Khátauli alone; Púr Chhapár and Bhukarheri were almost entirely unirrigated, and in the remaining parganahs irrigation was partial and insufficient. Within a few years of the opening of the canal, by far the greater portion of the tract was provided with water, and cultivation rapidly increased as well from the existence of water as from the economy of canal irrigation, which set free much labour of men and cattle for other agricultural works. The general statement of area at the revisions in 1841, 1861, and 1874 will be found under the notices of each parganah,¹ and the general result need only be given here.

¹ See page 350 *anté*.

Comparative statement of area in Ganges Canal Tract.

Total area.	Barren.	Revenue-free.	Total not assessable.	Groves.	Old waste.	Recent fallow.	Total cultivable.	Cultivated.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1841, ... 358,846,...	48,913	25,670	74,583	1,491	28,952	32,397	62,840	221,423
1874, ... 364,057,...	47,701	25,018	72,716	2,381	18,990	5,970	27,241	263,997
Difference + 5,211...	-1,212	-652	-1,864	+890	-9,962	-26,127	-35,499	+42,574

Of the land irrigated otherwise than from the canal only 949 acres are watered from tanks, ponds and rivers. The general result of the foregoing statement is that the cultivated area had largely increased, and the irrigated area by 100,999 acres, while in 12,645 acres more canal irrigation, almost invariably flush, had been substituted for laborious irrigation from wells and ponds, so that in parganahs Khátauli and Jánsath especially, labour had to a very considerable extent been liberated.

But even without these advantages the effect of the canal upon cultivation was rapid and important : the certainty of a return for their labour gave fresh heart and energy to the people ; a year of drought no longer brought privation and ruin, but in many cases carried with it exceptional prosperity. During seasons of scanty rainfall, people from the dry tracts migrated into the protected villages and increased the population, and thus gave labour for increased cultivation. The comparative crop statement, given on a previous page, shows the distinct progress that has been made. If, then, the increase in the assumed rental has been very great, the addition to the area under cultivation has been very important, whilst the increase in the irrigated area has been enormous and the improvement in the cultivation has been marked. The assumed rates were generally followed in assessment except in parganahs Jánsath and Khátauli, in both of which the increase required by the rates was so great that it was deemed inadvisable to take the whole of it. When these parganahs were settled, progressive assessments were forbidden, so that it was impossible to moderate the effect of a large enhancement of the demand by making it gradual. The assessments of the upland portions of the six parganahs in 1841 in 1863, and by the assumed rates and as actually fixed, are given in detail in the parganah notices, and the general result was as follows :—

Revenue in 1841.	Revenue in 1863.	Revenue by assumed rates.	Revenue now paid.	Increase over 1841.	Increase over 1863.
Rs. 3,28,984.	Rs. 3,47,851.	Rs. 4,52,833	Rs. 4,41,093.	Rs. 1,12,109.	Rs. 93,242.

Long before the completion of the records, the assumed rates and new assessments were sufficiently justified by the rent-rolls which stood as follows without any correction for seer or for under-rented land :—

Parganah.	1276 fasli.	1277.	1278.	1279.	1280.	Total of five years.	Average.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Pār Chhapār... ..	1,78,706	1,89,170	1,51,185	1,49,286	1,37,104	8,05,451	1,61,090
Muzaffarnagar, ...	1,40,196	1,56,871	1,58,000	1,58,519	1,47,632	7,61,218	1,52,244
Bhukarheri, ...	1,81,155	1,48,231	1,36,518	1,36,596	1,49,478	7,01,978	1,40,396
Jānsath, ...	1,80,808	1,70,599	1,67,374	1,61,316	1,62,619	8,42,716	1,68,543
Khātūli, ...	1,57,834	1,76,279	1,71,114	1,73,073	1,79,334	8,57,734	1,71,547
Bhūma Sambalhera, ...	76,341	91,186	82,468	83,279	90,996	4,24,270	84,854
Total, ...	8,65,040	9,32,436	8,66,659	8,62,069	8,67,163	43,93,367	8,78,674

The large enhancements of the revenue in the upland parganahs were followed by reductions in the valloy portions of parganahs Pār Chhapār, Bhukarheri and Bhūma Sambalhera, as also in the valloy portion of parganah Gordhanpur. These reductions, which have already been mentioned, amounted to Rs. 8,841 on the revenue assessed in 1841 and to Rs. 7,327 on that fixed in 1863, the percentage of decrease being 41 and 36 per cent. respectively.

The records and statistics of the revised settlement bring to light facts differing distinctly from those formerly recorded. Notwithstanding increased assessments, the price of land has steadily and rapidly risen, and twenty years' purchase of the land-revenue is now an ordinary and not an exceptional price in fairly assessed estates. More careful investigation, too, has shown that the holdings of the tenantry and of cultivating proprietors are much more substantial than was thought to be the case ten years ago, and that the cultivating proprietors and the occupancy tenants are still gaining ground and that the subdivision of holdings has not yet become undesirably minute. If, during the period of the current settlement, the prosperity of the cultivating proprietors and occupancy tenants—the back-bone of the population—can be maintained, there is every likelihood that in this, as well as in the adjoining districts, the increase to the revenue obtained at the recent settlements will be trifling compared with that which may be safely taken when the present settlements expire. Already the prices of agricultural produce, which a few years ago seemed so exceptional that their continuance could not be reckoned upon, have become normal, and rent-rates have risen in consequence. In Muzaffarnagar, as in Moerut, though to a less extent, the proportion of the revenue to the rental is steadily decreasing, and the rent-rolls of hundreds of villages show the moderation which has been shown at the recent assessments,

and the large enhancement which may be looked for at the next revision. The upper Duab is now beginning to emerge from the transition state which has continued since the opening of the canal. Time has now shown how distinctly prices have risen, how rapid and important has been the improvement in agriculture, how large the increase in the cultivated area, and how enormous that of the area capable of irrigation. The rent-rates of the various classes of soil, owing to a variety of reasons, have not risen so much as might have been looked for, but gross rentals have been enormously enhanced to such an extent, indeed, that no settlement officer has attempted to assume as permanent a state of affairs which every succeeding year shows more clearly to be indicative of a steady progressive rise in prices and in rents.

The following statement shows the official record of demands, collections, and balances for a series of years :—

Year.	Demands.	Collections.	Balances.	PARTICULARS OF BALANCE.			Nominal.	Percentage of balance on
				Real.				
				In train of liqui- dation.	Doubt- ful.	Irrecover- able.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1860-61, ...	11,45,361	10,04,562	1,40,799	1,33,967	...	6,522	310	12.20
1861-62, ...	11,16,904	10,81,114	35,790	17,704	...	9,593	8,493	3.20
1862-63, ...	11,36,222	10,56,212	80,010	1,828	1,212	3,797	73,179	7.04
1863-64, ...	11,34,031	10,37,763	96,268	...	...	...	96,268	8.48
1864-65, ...	11,26,421	10,33,395	93,026	...	...	...	93,026	8.26
1865-66, ...	11,22,958	10,36,244	86,714	...	...	...	86,714	7.72
1866-67, ...	11,21,590	10,77,206	44,384	261	...	...	44,123	3.95
1867-68, ...	11,19,949	10,76,766	43,183	...	...	...	42,183	3.58
1868-69, ...	11,19,760	10,53,392	66,368	23,985	...	...	42,283	5.93
1869-70, ...	11,20,171	10,78,218	41,953	364	...	...	41,559	3.75
1870-71, ...	10,87,383	10,84,673	2,710	2,584	...	...	126	0.25
1871-72, ...	11,41,406	11,39,545	4,861	1,243	...	...	618	0.11
1872-73, ...	11,40,637	11,36,639	4,978	2,927	...	...	2,051	0.26
1873-74, ...	11,43,875	11,34,680	9,295	364	...	...	8,931	.08

The tenures which prevail most throughout the district are the various forms of *pattidri*. In some of the local reports these tenures are divided into three classes, perfect and imperfect *pattidri* and *bháyachára*, and are thus defined. Where the shares are known as so many portions of a bigha and are so recorded in the proprietary register, and the responsibility of all the sharers for the general liabilities continues, the tenure is called imperfect *pattidri*. Here, although the responsibility remains intact, the accounts of the pattis are really kept separate, and as soon as the common land (*shámilat*) is divided, the tenure becomes perfect *pattidri*. In process of time the land becomes minutely subdivided and the divisions of the village lose the character of pattis, and the land actually in each man's possession becomes the measure of his rights, and hence arise the *bháyachára* tenures

so numerous in this district. Sometimes the shares both in perfect and imperfect *pattidari* estates correspond to portions of a rupee, or even the number of ploughs, but the unit is usually a bigha, which is divided as follows: one bigha makes 20 *biswas*; one *biswa*, 20 *biswansis*; one *biswansi*, 20 *tiswansis*; one *tiswansi* 20 *kachwansis*; one *kachwansi*, 20 *amwansis*, &c. The following table gives the perfect and imperfect *pattidari* tenures under one head and exhibits the local distribution of the tenures as recorded in 1860-63:—

Statement showing the tenures in the district.

Parganahs.	Zamindari.	Pattidari.	Bháyachára.	Total.	Parganas.	Zamindari.	Pattidari.	Bháyachára.	Total.
Shámli, ...	4	5	68	77	Kairána, ...	11	14	32	57
Kándhla, ...	10	17	51	78	Gordhanpur, ...	...	...	...	...
Thána Bhawan, ...	15	16	3	64	Bidauli, ...	8	10	36	54
Budhána, ...	1	22	21	44	Muzaffarnagar, ...	17	9	40	66
Shikárpur, ...	3	27	32	62	Bhukaiheri, ...	37	30	3	70
Baghra, ...	14	29	32	75	Púr Chhapár, ...	14	2	40	56
Jhanjhána, ...	7	14	44	65	Jánsath, ...	18	33	6	63
Chautháwal, ...	11	27	28	66	Bhúma, ...	47	38	2	82
Khátauli, ...	41	12	29	82	Total, ...	258	306	497	1,061

Up to the present settlement a kind of *tulukaddri* tenure existed in thirty-five villages held by communities possessing occupancy *sharah-nakdi* tenures. rights and known as the *sharah-nakdi* villages. At Mr. Thornton's settlement a certain fixed rate was laid down in the record of rights of these villages, and as long as this was paid the proprietor was entitled only to a deduction, usually amounting to eighteen per cent., as *malikána*. The consequence of this was that in some estates, like Luchairi, the proprietors were not able to enter their villages, the entire management being in the hands of the cultivators, who dug wells, planted groves, and exercised all rights, whilst in others, like Mustafabad, the proprietors were able to compel the cultivators to resign their privileges. The Board of Revenue abolished these rights at the settlement in 1863, substituting in lieu of them money rents for the cultivators, who have thus been reduced to the position of ordinary occupancy tenants. The change, however, is, in some measure, to be regretted, for the village communities, having the inducement which perfect security during the term of settlement afforded, did much to improve their estates, and brought them quite up to the standard of those villages in which the community were able to purchase the proprietary rights from the Sayyid owners, and little, if at all, behind those estates possessed by *bháyachára* communities in the western parganahs. "Indeed," writes Mr. Cadell, "it seems strange that an arrangement which for more than twenty years worked so admirably should have been set aside without any sufficient investigation."

Nothing gives a better idea of the progress of a district than an accurate

Transfers of landed property. account of the transfers of the landed property within it, the causes for these transfers, and the castes of those who have lost the land and of those who are the new proprietors. We have fairly correct materials on these points for this district, and I shall offer no apology for exhuming them from the district records. The following statements show the transfers by private sale and mortgage and by forced sale for the whole district during the currency of Mr. Thornton's settlement; the caste of those who lost the land and the caste of the purchasers, and also the area still remaining to the original proprietors. Similar returns for the succeeding ten years are given for the six parganahs of the Ganges canal tract, the assessment of which was revised by Mr. Cadell. From an interesting return,¹ drawn up by the same officer in 1874, showing the transfer of land from the agricultural to the non-agricultural classes, it appears that in 1840, out of a total area of 981,458 acres, 109,377 acres, or 11 per cent., were held by others than those subsisting on the land. In 1860 the proportion had increased to 19·5 per cent., and in 1870 to 20 per cent. I shall now endeavour to shew how these changes have taken place, and first give the statistics.

Statement showing the character of the transfers of landed property in the Muzaffarnagar district from 1841 to 1861.

Parganah.	Transfers by			Percentage of these transfers to total area.	Confiscations on account of rebellion.		Percentage of total transfers to total area.	Area exempt from transfer.	Total area in 1860.	Mr. Cadell's confiscation area.
	Private sale and mortgage.	Forced sale.	Total.		Percentage to total area.	Percentage to total area.				
Shámli, ...	6 786	3,531	10,317	16·0	3,189	4·75	20·75	51,944	65,450	3,204
Kairāna, ...	3,833	2,397	6,230	10·7	195	0·25	11·0	51,192	57,617	130
Thāna Bhawan, ...	4,015	1,675	5,690	12·6	7,536	16·9	29·5	31,705	44,931	10,957
Bidauli, ...	7,147	6,132	13,279	22·2	938	1·6	23·9	45,674	50,791	60
Jhanjhāna, ...	7,257	1,821	9,078	17·2	94	...	17·2	43,317	52,489	313
Budhāna, ...	3,839	1,898	5,677	11·4	3,336	6·5	17·9	40,685	49,698	3,103
Shikārpur, ...	11,418	5,067	16,485	25·8	257	0·2	26·0	47,063	63,805	201
Kāndhla, ...	8,782	2,714	11,496	17·0	1,188	2·0	19·0	53,876	66,560	882
Muzaffarnagar, ...	11,021	7,335	18,356	27·0	863	1·5	28·5	41,886	61,105	421
Baghra, ...	12,395	3,869	16,264	30·1	230	0·4	30·5	38,401	54,803	113
Charthāwal, ...	5,199	5,104	10,303	18·0	1,934	3·0	21·0	45,098	57,335	1,665
Fūr Chhapār, ...	5,911	3,523	9,434	20·0	359	0·7	20·7	49,132	58,925	292
Gordhanpur, ...	5,087	1,555	6,642	15·3	1,702	3·2	15·5	34,919	43,263	...
Jānsath, ...	10,796	1,461	12,257	20·0	...	...	...	48,969	61,226	45
Khātāuli, ...	12,297	15,657	27,954	47·0	...	...	...	31,650	59,610	975
Bhūma, ...	22,365	9,431	31,796	50·0	...	...	...	47,395	79,191	116
Bhukarheri, ...	17,579	19,040	36,619	44·2	920	0·8	45·0	45,115	82,634	986
Total, ...	155,727	92,150	247,877	24·3	22,471	2·2	26·5	747,927	1,018,275	23,498

¹ I am chiefly indebted to this return and the printed and manuscript records of the settlement for the materials for this account of the transfers.

The area confiscated during the mutiny given in column 6 is taken from the manuscript parganah reports, and the area of confiscations in the last column is taken from the return made by Mr. Cadell in 1874.

To complete these statistics, the transfers from 1862 to 1870 in the upland portions of the parganahs revised by Mr. Cadell are given below:—

Parganah.	Total area.	Transfers by		
		Private sale, &c.	Public sale.	Total.
	Acres.	Acres.	Acres.	Acres.
Jānsath,	61,963	6,851	775	7,126
Pūr Chhapār,	56,747	2,314	1,110	3,454
Muzaffarnagar,	69,554	4,808	1,178	5,481
Bhukarheri,	64,577	8,695	862	9,557
Khātauli,	62,293	6,430	3,813	10,243
Bhūma,	48,923	8,262	862	9,124
Total,	3,64,057	36,390	8,595	44,985

Caste of original proprietors and area in acres remaining with them exempt from transfer on the expiration of Mr. Thornton's settlement in 1861.

Parganah.	Jāts.	Tagas.	Gūjars.	Rajpūts.	Mahājāns.	Sayyids.	Shaikhhs.	Parhāns.	Bilūches.	Others.	Total.
Shūnli,	39,492	...	2,735	1,316	2,179	89	1,090	1,279	121	3,644	51,944
Kāndhla,	20,979	6	13,922	5,866	3,912	1,210	2,456	675	...	4,850	53,876
Thāna Bhawan,	4,028	889	...	16,672	2,433	302	2,849	239	1,506	2,787	31,705
Budhāna,	9,079	1,409	1,451	13,439	476	18	...	4,101	...	10,713	40,685
Shikārpur,	26,282	8,036	...	1,655	879	34	609	4,407	...	6,161	47,063
Baghra,	Details not forthcoming.										
Jhanjhāna,	17,947	...	5,440	8,481	1,663	94	2,140	3,853	1,287	3,012	43,317
Charthāwal,	3,928	19,329	...	14,263	...	5,884	...	...	...	1,694	45,098
Kairāna, ... ..	...	...	41,092	...	1,962	182	3,587	80	...	4,289	51,192
Gordhanpur,	1,511	459	30,075	...	427	...	...	...	...	2,447	34,919
Bidauli,	6,887	757	11,656	11,049	1,978	9,079	45	1,673	...	2,580	45,574
Muzaffarnagar,	559	4,467	1,648	410	5,647	18,260	147	12	...	10,746	41,886
Bhukarheri, ... ..	...	399	13,266	...	10,796	9,919	7,238	...	...	3,502	45,115
Pūr Chhapār,	9,818	12,553	9,068	551	8,702	864	4,551	...	...	3,525	49,132
Total,	1,38,510	48,594	1,30,353	73,701	40,953	45,935	25,077	15,819	2,914	59,950	581,506

Caste of losers and area in acres transferred by private and forced sales between 1841 and 1861, exclusive of confiscations.

Parganah.	Játs.	Tagas.	Gújars.	Rajpúts.	Mohájans.	Sayyids.	Shaikh.	Patháns.	Bilúches.	Others.	Total.
Shámli, ...	6,821	...	141	153	288	58	277	284	1,766	559	10,317
Rándhla, ...	2,682	...	2,410	2,713	1,431	693	411	615	...	539	11,496
Thána Bhawan, ...	676	...	...	2,277	294	439	657	96	881	430	5,690
Budhána, ...	1,184	660	120	1,603	223	...	...	1,139	...	748	5,677
Shikárpur, ...	9,601	711	...	373	1,624	...	129	4,008	...	39	16,485
Baghra, ...	Details	not	procured	...	...	...	...	...	...	...	...
Jhanjhána, ...	3,102	...	1,909	457	363	110	247	1,415	682	763	9,078
Chartháwal, ...	380	1,459	...	2,581	...	5,458	...	...	...	475	10,303
Kairána, ...	...	...	4,617	...	230	...	685	147	...	551	6,280
Gordhanpur, ...	...	...	4,635	...	64	...	...	265	...	1,678	6,642
Bidauli, ...	264	112	2,001	1,435	674	7,961	...	36	...	796	13,279
Muzaffarnagar, ...	102	655	1,099	108	2,423	13,373	121	9	...	466	18,355
Bhukarheri, ...	717	269	...	...	3,977	30,600	1,056	...	...	...	36,619
Fár Chhapár, ...	3,988	902	1,020	128	531	1,638	571	...	...	756	9,484
Total, ...	29,467	4,768	17,952	11,828	12,062	60,280	4,156	7,994	3,549	7,800	159,606

The statistics of the caste of vendors for parganahs Janli Jánsath, Bhúma Sambhalhera, and Khátauli are given in whole villages and shares in villages. Twenty *biswas* equal one village and twenty *biswansis* equal one biswa. I omit the minor denominations, and in the following table 'B.' = *biswa* and "bis" = *biswánsi* :—

Caste.	JAULI JÁNSATH.						BHÚMA.						KHÁTAULI.					
	LOST.			RETAINED.			LOST.			RETAINED.			LOST.			RETAINED.		
	Villages.	Shares.		Villages.	Shares.		Villages.	Shares.		Villages.	Shares.		Villages.	Shares.		Villages.	Shares.	
		B.	bis.		B.	bis.		B.	bis.		B.	bis.		B.	bis.		B.	bis.
Sayyid, ...	2	154	19	16	459	9	3	342	...	17	315	14	19	394	9	3	156	6
Ját, ...	...	2	15	...	12	2	1	14	...	4	26	...	...	1	19	1	18	16
Bohra, ...	...	28	13	1	10	...	6	13	1	13	6	...	...	2	15	...	7	4
Mahájan, ...	...	57	22	1	10	8	...	14	18	2	12	...	...	45	4	...	109	15
Shaikh, ...	...	35	14	...	59	...	...	...	...	...	...	...	...	10	...	...	...	...
Others, ...	...	4	12	...	...	...	...	7	26	3	18	19	...	84	18	3	252	12
Total, ...	2	284	15	18	550	19	4	385	17	27	385	19	19	599	...	7	574	13

Statement showing castes of transferrees at private and forced sales between 1841 and 1861, exclusive of confiscations.

Parganah.	Bohra.	Mahajan and Khatri.	Kayath.	Jat.	Gujar.	Shaikh.	Sayyid.	Pathan and Bilach.	Brahman.	Marhal.	Rajput.	Other castes.	Total.
Shamli, ..	490	5,359	223	2,216	42	263	149	152	600	567	97	165	10,317
Kandala, ..	95	6,330	150	920	307	200	215	233	630	...	1,980	357	11,498
Thana Bhawan, ..	...	3,590	7	78	...	149	22	611	183	...	1,099	40	5,690
Budhana, ..	54	2,608	5	403	23	51	8	437	124	...	1,236	1,136	5,677
Shikarpur, ..	369	7,678	43	3,015	...	211	5	1,245	439	1,399	624	533	16,483
Jhanbana, ..	105	2,890	...	723	14	217	1,784	758	641	17	131	792	9,078
Charthawal, ..	999	5,865	...	194	...	132	659	5	568	229	807	845	10,303
Kairana, ..	...	2,819	107	...	1,801	791	234	3	31	200	139	49	6,230
Gordhanpur, ..	383	1,501	...	109	2,030	925	...	...	882	250	...	403	6,642
Bidauli, ..	...	2,337	93	287	111	450	7,784	38	...	1,925	111	180	13,279
Muzaffarnagar, ..	1,385	10,433	...	516	...	3	1,420	9	44	1,140	26	424	18,356
Bhukhari, ..	3,840	21,815	709	569	...	1,115	7,388	17	837	...	...	328	30,619
Far Chhapar, ..	82	2,765	...	306	3,178	569	1,239	50	271	...	5	70	9,434
Total, ...	7,788	75,489	1,330	10,416	7,515	5,104	20,797	4,008	5,200	8,819	6,299	6,098	159,006

Statement showing the castes of transferrees in the three parganahs for which the records give only the number of villages and portions of villages transferred.

Caste of transferree.	Khatauli.			Jauli Jansath.			Bhama Sambathara.			Total.		
	Whole village.			Whole village.			Whole village.			Whole village.		
		Bis.	Bisw.		Bis.	Bisw.		Bis.	Bisw.		Bis.	Bisw.
Bohra, ..	1	78	...	...	27	8	...	8	14	1	114	2
Mahajan, ..	2	242	14	...	95	19	2	243	10	4	582	3
Jat, ..	...	21	3	...	34	9	...	19	14	...	75	6
Gujar, ..	...	...	...	...	...	...	...	1	6	...	1	6
Shaikh, ..	...	13	6	...	...	...	...	...	...	...	13	6
Sayyid, ..	6	103	...	...	113	8	1	108	1	7	324	9
Pathan, ..	...	16	9	...	...	...	...	...	...	...	16	9
Brahman, ..	...	...	...	...	...	5	...	...	...	...	5	13
Marhal, ..	10	28	14	2	...	...	...	...	...	12	28	14
Rajput, ..	...	29	9	...	...	...	...	4	...	...	33	9
Others, ..	...	6	5	...	8	8	1	...	12	1	15	5
Total, ...	19	539	...	2	234	15	4	385	17	25	1,209	12

Up to nearly the close of the last century the Barha Sayyids owned the greater portion of the eastern parganahs of the district, and, except in a few Pathan and Shaikh villages, were the only landlords. After the sack of Jansath the power of the Sayyids began to

Sayyid losses.

wane ; many of them went into exile, and the Gújar Rajas of Landhaura and Bahsuma usurped the Sayyid villages. At the conquest the Sayyids returned, and were, in many cases, restored to possession, but, as a rule, the representatives of the families which had throughout held the highest position seem to

Jánsath tahsíl, have lost all the energy of their ancestors, and to have been distinguished mainly by the reckless extravagance

which has ruined so many ancient and once powerful families in their effort to maintain a style of living to which their resources were no longer equal. In this way, the descendants of Khánjahán, the Sayyid minister of the Emperor Sháhjahán, have lost nearly all the large estates they once possessed in parganah Khátauli and much of their lands in Jánsath and Muzaffarnagar. In Khátauli only, the lesser Sayyids have, in any way, held their own. Their lands have passed into the hands of the Játs of Maulaheri, Tagas, the Marhal Nawáb of Karnál, and the Sayyids of Jánsath, and here Baniyas have not acquired much land. In the Sayyid parganah of Jánsath there have been far fewer transfers, but the Mahájan family of Talra early got a footing in the parganah, and on their decay, the lands which they had acquired fell, for the most part, into the hands of a Baniya family which had prospered under the protection of the Sayyids of Jánsath. The heads of the Jánsath families have shown more intelligence and shrewdness than their Khátauli clansmen, nor have they thought it incumbent on themselves to support the dignity of their families by the extravagance which has ruined the descendants of Khánjahán. Though Játs and Rajpúts have succeeded in acquiring a little land in this parganah, and the Nawáb of Karnál has purchased two villages, the greater part of the Sayyid losses has gone to swell the domains of the heads of the clan.

In Bhukarheri the Sayyids of Morna and Tisha have lost much, and the influence of the Landhaura Raja made this parganah an early prey to the Mahájan family which held the office of treasurer to the Raja. The lesser Sayyids, too, fell to the usuror, but since 1840 the Tisha Sayyids have begun to recover much of their property, and many villages have come into the hands of the Sambalhera Sayyids. In the lowlands of the Ganges *khádir*, where cultivation is so risky and cultivators so few and so difficult to retain, the greater portion of the area has passed out of the hands of the old proprietors to Baniyas. Here, perhaps, the money-lenders make as good landlords as any one else, for though improvement is not to be looked for from them, their own interests will prevent them from oppressing their tenants. In Bhúma Sambalhera the *khádir* was owned by many small proprietors who lived close by and managed their own lands, and, besides, this portion of the Ganges valley has not deteriorated so much as the corresponding tract to the north, so that transfers are fewer. In the uplands of Bhúma, the Sayyids of Míránpur, who rose to eminence on the ruin of their Jánsath brethren, have lost much of their possessions.

In the Muzaffarnagar tahsil there were fewer Sayyids, and there have been, therefore, fewer extensive transfers. In parganah Muzaffarnagar tahsil.

Muzaffarnagar the descendants of Khánjahán have gone steadily to decay, and the Nawáb of Karnál, whose ancestor held the parganah at the conquest, has purchased largely, as also has the head of the Ratheri Sayyids. Transfers have been numerous, but chiefly to the classes already owning land in the parganah. In Púr Chhapár the Landhaura treasurer bought up the not very well assured rights of the Jánsath Sayyids, who now own no land in the parganah. Some of the village communities admitted to engage for the revenue on the death of Raja Ramdayál, in 1813, early fell into the Baniyas' hands, but, since the construction of the canal, Játs and Tagas have more than held their own, and even Gújars have lost but little, whilst the loss of the ruined *khádír* towards the Soláni is little felt. In Baghra the Sayyids have lost much land to the money-lenders, whilst Ját villages have kept their own. In Chartháwal, where the Morna Sayyids held large possessions, transfers have been comparatively few, notwithstanding the losses which recurring famines have caused in a very insufficiently irrigated tract. Sayyids have, however, lost most; next came Rajpúts and Tagas. Gordhanpur was originally held almost entirely by Gújar owners, and money-lenders only appeared when the western portion of the parganah, about 1857, deteriorated so suddenly and completely as to ruin the owners before the state of affairs became generally known. Gújars, however, still hold the greater part of the parganah.

There have been fewer transfers in tahsil Budhána than in any other tahsil in the district, and in the tahsil, fewest in the parganah Budhána tahsil. in which village cultivating communities predominate.

In parganah Budhána only about one-tenth of the area changed hands between 1840 and 1860, and Rajpúts, Játs, and Tagas still retain the greater part of their possessions. In Shikárpur the Játs and Patháns are the principal losers, and a few Tagas, Rajpúts, and Mahájans have lost some land. One turbulent Ját community ruined itself by murdering a Baniya intruder, and another never recovered from the punishment inflicted on it for the murder of its Baniya enemies during the mutiny. In Kándhla, the Játs, Gújars, Rajpúts, Mahájans and Musalmáns have lost seventeen per cent. of their possessions between 1841 and 1861. Altogether the old proprietors in this tahsil have retained the greater portion of their possessions, and the alienation statements show how little even comparatively heavy assessments cause transfers when compared with reckless extravagance in the owner themselves as exhibited in the eastern parganahs of the Muzaffarnagar and Jánsath tahsils. In the Jánsath tahsil the alienations range from 20 per cent. of the total area in Jánsath to 50 per cent. in Bhúma, and in the Muzaffarnagar tahsil from 15 per cent. in Gordhanpur to 30 per cent. in Baghra, whilst

which, if retained by Government for a few years and then sold in smaller plots, would have brought a more adequate price, while their acquisition by residents would have been more productive of good to the neighbourhood."

Transfers have been fewest where village communities owned most of the lands, and greatest where Musalmáns have been proprietors. In the early days of our rule the transfers of much Sayyid property was, doubtless, due to the rigidity of our system of collection, while in a few estates in Bhúma Sambhalhera severity of assessment may have been, in some degree, the cause. In Púr Chhapár, however, the village communities, some fifty to seventy years ago, paid a higher revenue for land, then dry, than they now pay for it though water is available for nearly all the land that can utilise irrigation and though prices have so greatly risen. In Baghra, Shikárpur, Kándhla, Shámli, and Budhána many of the best villages pay less now than they paid immediately after the conquest. Of all castes, the Tagas cling most resolutely to their land, and in Púr Chhapár they have stood their ground. The inaptitude for self-government of a Ját community often mars its efficiency in keeping as well as in acquiring land, while Rajpúts and Gújars have now lost much of the security which their old character for turbulence gave them. In industrious and successful agriculture not a few Gújar communities now come near to the best in the district and pay as high rents and revenue as their neighbours, but, on the whole, they have lost more land than other castes. They are less industrious than the Játs and Tagas, and, as a rule, form an easier and safer prey than the Rajpúts. When reduced to the position of cultivators they are more tractable than the Rajpút and less sternly mindful of their real or fancied wrongs. But Muhammadans have, as a body, lost far more than any Hindu castes. Even converts to Islám are less industrious and more extravagant than their Hindu brethren, and the Sayyid, Pathán, Shaikh, and few Mughal families in the district are now, as a rule, more or less decayed. Although the converted Rajpút family of the Marhal Nawáb of Karnál and the Sayyids of Jánsath, Ratheri, Sambhalhera and Jaula have bought up much land from their co-religionists, Muhammadans, all through the district, have lost ground greatly, and even where transfer statements are not against them, the tendency has been to bring the land of the small Musalmán proprietors into the hands of a few wealthy families.

In very few cases, however, even amongst the Musalmáns and Gújars, can the pressure of the land-revenue be justly given as the cause of these transfers. Other influences have been at work, as the intrigues of the Baniyas on the one side and the idleness and extravagance of the Sayyid, Pathán and non-Muslim landowners, and the lazy thriftlessness of the Gújar proprietary body on the other. On this point Mr. Cadell is in accord with Messrs. Keene, Colvin, Grant, and Martin, for he

writes :—"The statement of transfers of land held free of revenue is an additional proof of the fact that transfers in this district have, for the most part, been uninfluenced by the assessments. In Khátauli, Muzaffarnagar, and Baghra, in which parganahs Sayyid *muáfis* were most extensive, transfers have been nearly as numerous as in the revenue-paying portion of the parganah, and the money-lenders have made greater way than elsewhere, notwithstanding the considerable purchases which have been made by wealthy Sayyids and by the Nawáb of Karnál. This circumstance is easily accounted for by the extreme attraction which revenue-free land presents to the petty Baniya's mind. If one may judge from the conduct of the most extensive landowners, they prefer investing their money in revenue-paying estates; for the same money they acquire proprietary rights over greatly more extensive tracts, and obtain more extended influence. But to the petty Baniya, the freedom from Government interference, the certainty that, however he may rack rent, he is beyond the reach of the assessing officer, these considerations, rather than more security and the advantage which freedom from assessment gives in the event of improvements, which are very rarely effected, form a charm which proves so attractive to the small money-lender, and it is likely enough that permanent settlement would merely increase the desire of the money-lenders to acquire land without in any way increasing the ability of the present landlords to resist their encroachments. In Bhukarheri, Chartháwal, Kándhla, and Jhanjhána, in which the extent of revenue-free land is very considerable, it is owned for the most part by Shaikh brotherhoods, and in most such communities there are generally one or two careful managers or prosperous officials, who buy up the land of their poorer brethren and keep it out of the hands of the money-lenders; and, in the last-named parganah, the encroachments have been at the expense of the Patháns. In Thána Bhawan the misconduct of the Shaikhs and the extravagance of the Patháns are both responsible for the transfers; but the statistics regarding this parganah are obviously incorrect. In Bidauli, Shaikh and Sayyid *muáfidárs*, as well as proprietors of revenue-paying land, have fairly stood their ground."

Mr. Martin in his Baghra report writes :—"As I moved through the parganah in 1862-63, the complaints against the usurious Baniyas as landlords, and fraudulent practices of the Baniyas met me in every village almost that I visited, and I feel it my bounden duty to place on record my opinion that it is a most serious matter." In his remarks on parganah Kándhla, Mr. A. Colvin notices the proprietary body of that parganah as affording, in one view, a good specimen of estates under the various kinds of management. Mahájan landholders and village communities are there side by side. Taking those villages in which there were, as far as could be seen, no disturbing influences, where the inhabitants were of all classes and the

former revenue was fairly assessed, the conclusion arrived at was altogether in favour of the village communities. Their villages were full and substantial, cultivation was incessant, careful, and of the best crops. The members of the copareenary body were, as a rule, fine, intelligent independent men, ready to give a pleasant answer, out-spoken and self-reliant. Their cattle were numerous and well cared for. Artizans of all kinds were to be found in these villages, and the general impression left was that comfort and abundance prevailed." In villages held in zamindári tenure by owners of other castes, Mr. Colvin says that all the signs of comfort and content disappear. He writes of them :—"The site is covered by a few huts of Mális or Chamárs. The cultivation consists mainly of the poorer crops ; there is less manure and therefore less sugar-cane, cotton and maize. The cultivators are miserably poor and ignorant, without interest, self-reliance, or intelligence. All the material with which education has to deal is wanting, and all the qualities which form the basis of rational prosperity are discouraged or destroyed. Where cultivators have a right of occupancy, which, however, seldom occurs in villages owned by Mahájans, the characteristics of the village are similar to those of villages held by proprietary communities: there are the same substantial houses, the same abundance of cattle, and the same air of independence and self-reliance amongst the residents."

The distinction is not an accidental one, and is the result of a system which is daily going on in most districts in these provinces. Mr. A. Colvin thus records his experiences :—"The method in which the original landholders are first reduced to cultivators, and finally driven away, is matter of daily experience. At different times I have had opportunities of seeing it in its different stages. If the landlord has not bought the cultivating rights, he first gets the patvári on his side. He then commences a career of suits for arrears of rent, refusing to divide the grain when ripe, and preferring to embarrass the cultivators by subsequent litigation. The cultivators, on their side, are nothing loth, and enter on the contest in the hope of dispossessing the proprietor or worrying him out of his estate. The former party never, the latter only under the prospect of ruin, wishes for compromise. Decrees and balances accrue, the cultivators are unable to meet the accumulated demands ; at last a suit for ouster is brought, and the cultivators lose their right of occupancy. From that moment the fight is over. The landlord lets out his fields to men from other villages, the old cultivators disperse, the site is abandoned, the houses fall in, the high-walled enclosures are levelled, and in a corner of the village a space is cleared for the low huts of Mális or the yards of Chamárs. The principal reason leading to the adoption of such a line of action I believe to be that the Maháján landlord does not see in what his real interest consists. He looks for increased profits from an increased share in the produce of the land, not from

Method of ousting the independent classes adopted by Maháján landholders.

an increase in the produce itself: hence he seeks to cultivate it with men who will not haggle about their share. The independent qualities of Jâts and Rajpûts are odious to him. The qualities that distinguish them are precisely those which he most dislikes. First-rate agriculture, unceasing labour, and an intelligent tenantry are not his object. He prefers indifferent tillage and submissive hands. And what in this district is done on a small scale would, if occasion offered, be re-produced on a much larger. Population is abundant and agriculture is the chief resource. Hence, in as far as the village communities or cultivators with right of occupancy were destroyed, so far would the population depend for its subsistence on the terms which the Mahájans chose to impose. But if the germs of social progress lie in the independence, the leisure, and the comfort of the mass, and to such independence, leisure, or comfort the tenure of the Mahájan is fatal, does not a system, in an agricultural society, in proportion as it extends Mahájan tenures and destroys the village communities, and the occupancy tenants, militate against the conditions of social advancement? Indeed, it is difficult to see what benefit can at present be expected from large native landholders in this part of India. They do not understand the duties of landlords. They have no enterprize or wish to improve the country and forward its social prosperity, and they would be the very last to interest themselves about the education or progress of the masses. All experience, I believe, proves, even if all *a priori* reasoning had failed to point out, that, as a rule, among an agricultural people great landlords and a flourishing community are incompatible; and most assuredly of all great landlords the least likely to belie experience would be the *sahukárs* of this district. A few large estates are in every way desirable, but what seems so objectionable is the tendency to have nothing but large estates."

In speaking of the general prosperity of the village communities, especially in
 Exceptions to the rule of Káundhla, Shámli, and Jhanjháua, only those villages
 prosperity. fairly situated are intended, nor are those inhabited by
 Shaikh, Pathán, and Sayyid communities included. These villages have the form
 of village organisation, but not the life, and in them the characteristics of the
 Ját and Rajpút communities are altogether wanting though they are not worse
 cultivated nor more badly managed than the villages owned by absentee,
 money-lending proprietors. Some may object to the terms used by Mr. Colvin in
 describing the prosperity and intelligence of the village communities, and as he
 says, "many natives, chiefly Musalmáns, whom our rule has impoverished and
 who lived by the plunder of these very villages, hate them for their prosperity,
 and, contrasting their own fallen state with the spreading villages and comfortable
 homes of their once defenceless subjects, are never weary of enlarging on
 their ignorance, stupidity, insolence, and raceality. And as these men are chiefly
 of the class who fill the ranks of the Government service, they continue to

inoculate with their own ideas a good many official and non-official Englishmen. But the source of native opinion should be searched, though the decaying Musalmán may be excused for flinging a last lie at the class whose prosperity depended on his destruction. How far the present form of community may be suited to a more advanced state of society is another question; but I should think that the necessary changes will be brought about without the aid of legislation. The tendency in this district is to leave no land in common, every man holding in separate possession his cultivated, barren and inhabited land. The joint responsibility remains unimpaired, but every man gets the entire fruit of his own labour; hence suits for imperfect partition have been very numerous. Outsiders are doubtless still deterred from letting their money go to the land, but, as has been said, in the present state of society here, there is a wide difference between an outsider purchasing land and expending his money upon the land."

In connection with the transfers of land, Mr. Cadell writes thus of the Baniya

Mr. Cadell's opinion of
Baniya landholders.

landowners :— " Justice compels me to say that in this district the Baniyas have, on the whole, shown themselves no worse than proprietors of other castes. Almost without any exception, large proprietors have done nothing for their land, and Baniyas, if they do nothing more, generally manage to settle hamlets where population is deficient. It is only the smaller Baniya landlords that have time for detailed oppression, and the worst of these are certainly bad enough; they treat their tenants as they do their debtors; their chief endeavour is to get them more and more into their hands, to reduce the occupancy tenant to the position of a tenant-at-will, and if he is then troublesome, i. e., something above the cringing Chamár, to eject him from the village. But the worst petty Baniya proprietor is equalled in harshness and surpassed in courage and determination by the bad Sayyid or Pathán landlord, and except that people resent oppression on the part of a now tyrant more than they do on that of an old one, it is likely that the unprivileged and unprotected cultivator would find little to choose between the two, between the new landlord and the old, and would probably prefer the Baniya to the Pathán, or the Shaikh or Ját, if not to the Sayyid. The protected tenant, on the other hand, is safest with the old landlord, who has influence enough to obtain from the tenant the not very valuable but highly prized present of hay and straw, fuel, molasses, &c., upon which in many villages the Baniya can only count when the tenant is deprived of his rights. It is probably from the same cause, the feeling of the comparative security of their influence, that Sayyid landlords often allow to their tenants a freedom in building and in planting which the Baniya would never cheerfully yield; and on the whole, the old proprietor, if when roused he is a more violent, is a less insidious enemy than the new, and when he is on good terms with his tenants, is a more generous and kindlier friend. In most instances, indeed, the worst feature of the Baniya landlord is his conduct

in obtaining land, not after its acquisition; and when the new proprietor has swindled cultivating proprietors out of their ancestral land any terms between the two are impossible; and such villages furnish the worst instances of Baniya oppression; and it is chiefly in the interest of the poor and ignorant that Government interference is required, and can be productive of good. The reckless Sayyid knows well enough how his career of extravagance will end; the petty owner needs what protection the law can give him from fraud, and good policy demands that every obstacle should be thrown in the way of the usurer obtaining land from the class which suffers most injustice during, and the greatest oppression after, the acquisition by the money-lender of their ancestral land." The following statement gives the official record of transfers of proprietary right for fourteen years since the mutiny:—

Year.	UNDER ORDERS OF COURT.				BY PRIVATE TRANSFERS.				
	Sale.		Number of other cases.	Total number of cases.	Sale.		Succession, number of cases.	Mortgage, number of cases.	Total number of cases.
	Number of cases.	Aggregate revenue of property transferred.			Number of cases.	Aggregate revenue of property transferred.			
		Rs.				Rs.			
1860-61....	82	1,172	28	110	233	6,620	111	220	564
1861-62,...	116	4,590	562	729	394	13,510	1,054	261	1,649
1862-63,...	67	2,017	3	98	243	7,598	100	950	1,293
1863-64,...	78	2,832	54	132	165	6,589	110	210	485
1864-65,...	60	4,474	82	148	244	8,474	81	277	602
1865-66,...	81	1,859	138	219	338	7,871	80	561	979
1866-67,...	90	2,716	158	248	308	7,551	74	670	1,052
1867-68,...	95	2,825	101	196	406	8,488	166	645	1,217
1868-69,...	139	3,127	74	213	451	8,443	69	629	1,149
1869-70,...	135	3,224	58	193	507	7,293	209	673	1,389
1870-71,...	173	4,106	64	237	304	7,050	228	429	661
1871-72,...	189	3,897	63	252	383	7,671	193	673	1,249
1872-73,...	184	3,425	93	277	357	16,160	216	408	1,101
1873-74,...	117	5,270	65	182	358	6,823	412	587	1,357

The following table shows for each parganah the numbers of cultivating proprietors, tenants having a right of occupancy and tenants-at-will as ascertained in 1840 and 1860-63, with the area held by them and the average holding per head of each class. The total areas entered as held by each class in 1860 are probably accurate, but it is obvious that much of the land held without rights of occupancy must be cultivated by persons who hold other land either as cultivating proprietors or as occupancy tenants, and it is possible that not a few both of the owners and tenants have been entered twice over for land which they cultivate in different estates or in distinct capacities, but, on the whole, the returns may be considered as fairly accurate as the intricate nature of the investigation will allow. An examination of the records of the revision of settlement confirms this view and shows that not a few of the cultivating proprietors cultivate land as occupancy-tenants and as tenants-at-will in addition to their own seer, and occupancy-tenants also hold as tenants-at-will, and so far the old statistics are imperfect.

Occupancy statement for 1840 and 1860¹.

Class of occupiers.	Shámli.		Kándhla		Thána Bhawan.		Budhána.		Shikárpur.		Baghra.	
	1840.	1860.	1840.	1860.	1840.	1860.	1840.	1860.	1840.	1860.	1840.	1860.
Cultivators with a right of occupancy.	20	1,779	6	2,358	170	585	550	1,588	1,030	2,668	1,310	2,447
Area held by them,	89	1,889	29	5,289	936	2,045	2,869	3,890	6,527	7,496	6,356	9,471
A.R.P.												
Average area of each holding.	4 1 32	1 0 10	4 3 13	2 1 8	5 2 1	3 2 29	5 0 35	2 1 31	6 1 14	2 3 9	4 3 16	3 2 15
Tenants-at-will, ...	5,475	4,804	4,440	2,639	2,453	2,552	2,776	4,724	3,476	5,864	2,589	5,012
Average held by them.	13,772	14,053	17,167	17,547	11,330	14,495	10,874	13,467	13,567	15,195	12,956	12,486
A.R.P.												
Average area of each holding.	2 2 2	2 3 29	3 3 18	3 3 12	4 2 19	4 1 3	3 3 27	2 3 16	3 3 25	2 2 15	5 0 0	2 1 37
Cultivating proprietors.	4,708	4,612	2,861	3,486	2,244	1,322	2,369	2,439	3,967	4,420	1,744	2,992
Area held by them,	83,566	29,518	24,782	27,493	17,463	14,152	17,943	17,925	25,100	25,796	16,900	20,181
A.R.P.												
Average area of each holding.	7 0 20	6 1 27	10 1 39	7 3 13	7 3 5	10 1 31	7 3 25	7 1 31	6 1 12	5 3 14	9 3 0	6 2 23

¹ For certain villages the returns for 1840 are not forthcoming, and though the actual statistics of all the villages are given for 1860, the number of cultivators in the villages for which the 1840 papers were not procurable are not included in the averages in order to make the comparison more accurate and complete. The average holdings are given in acres, roods and poles.

Class of occupiers	Jhanjhāna.		Charthāwal.		Kairāna.		Gordhanpur.		Bidauli.	
	1840.	1860.	1840.	1860.	1840.	1860.	1840.	1860.	1840.	1860.
Cultivators with a right of occupancy.	16	549	896	2,014	17	527	192	331	362	703
Amount of land held by them.	125	843	6,909	11,618	170	2,246	1,338	1,424	2,325	4,100
A. R. P.	7 3 10	1 1 17	7 2 34	5 2 35	10 0 0	4 1 2	6 3 35	4 1 8	6 1 28	5 3 28
Average area of holding.	2,113	2,015	2,623	3,554	2,614	2,388	1,075	1,466	1,276	1,231
Tenants at-will, ...	8,924	7,742	14,892	11,210	14,945	13,220	4,886	5,482	7,448	6,366
Amount of land held by them.	A. R. P.	4 0 36	3 2 39	4 0 17	3 0 25	5 2 35	5 2 3	4 2 7	3 2 38	5 3 14
Average of holding.	1,916	2,038	1,734	2,046	1,321	1,484	608	623	713	1,026
Cultivating proprietors.	19,576	16,426	18,390	21,621	15,360	1,8176	8,957	9,212	11,284	10,078
Amount of land held by them.	A. R. P.	10 0 35	8 0 1	10 2 17	10 2 11	11 2 22	12 0 34	14 3 18	14 3 6	15 3 12
Average of holding.	10 0 35	8 0 1	10 2 17	10 2 11	11 2 22	12 0 34	14 3 18	14 3 6	15 3 12	9 3 18

Class of occupiers.	Fūr Chhapār.		Muzaffarnagar.		Bhukarheri.		Jauli Jānsath.		Khātauli.		Bhūma Sambhalhara.	
	1840.	1860.	1840.	1860.	1840.	1860.	1840.	1860.	1840.	1860.	1840.	1860.
Cultivators with right of occupancy.	348	1,774	714	2,527	784	3,077	313	3,461	732	3,252	436	2,411
Amount of land held by them.	6,076	14,593	8,241	17,950	9,743	26,071	3,870	25,050	8,663	19,565	4,761	18,508
A. R. P.	17 1 28	8 0 36	11 2 7	7 0 17	12 2 0	8 2 0	12 1 18	7 1 0	12 0 17	6 0 28	3 2 1	7 2 30
Average area of holding.	2,710	3,180	4,121	3,322	2,491	3,338	2,791	4,051	2,724	3,162	3,162	3,103
Tenants-at-will, ...	10,918	11,735	25,315	15,982	26,955	14,087	37,149	17,071	22,893	12,217	24,620	14,896
Amount of land held by them.	A. R. P.	4 0 5	3 2 30	6 0 3	14 3 10	10 1 30	4 0 35	13 1 9	4 0 30	8 1 24	3 3 18	7 3 9
Average of holding.	1,371	1,514	344	562	293	713	222	481	705	1,107	164	358
Cultivating proprietors.	17,145	14,715	6,434	7,385	5,762	6,766	7,087	6,642	7,790	8,582	3,747	7,811
Amount of land held by them.	A. R. P.	12 2 1	9 3 1	18 2 32	14 0 33	19 3 0	9 1 21	31 3 28	13 3 9	11 0 8	7 3 0	22 3 20
Average of holding.	12 2 1	9 3 1	18 2 32	14 0 33	19 3 0	9 1 21	31 3 28	13 3 9	11 0 8	7 3 0	22 3 20	21 3 11

These tables give a total number of cultivating proprietors in 1840 of 3,099, holding 47,965 acres, and in 1860 of 4,735 persons holding 52,501 acres; occupancy tenants in 1840 numbered 3,327 persons and held 41,554 acres, and in 1860 they numbered 16,502 persons and held 121,737 acres; while tenants-at-will, in 1840, numbered 17,999 persons and held 146,850 acres, and in 1860 numbered 20,206 persons and held 85,988 acres.

The following statement shows the details of occupancy of the six Ganges canal parganahs as recorded during the revision in 1871-73:—

Class of cultivators.	Pār Chhapār,		Muzaffarnagar.		Bhukarheri.		Khātauī.		Jauli Jānsath (Khalisa.)	Khūma Sambal- hera (Khalisa.)
	Khalisa.	Muāfi.	Khalisa.	Muāfi.	Khalisa.	Muāfi.	Khalisa.	Muāfi.		
I.—PROPRIETORS.										
Number of persons, ...	1,650	71	936	47	576	20	831	68	360	276
Area held as seer, ...	17,617	437	8,596	1,104	7,013	103	8,483	718	6,370	5,656
	A. R. P.									
Average area of holding,...	10 2 8	6 25 0	9 0 29	23 1 38	12 0 28	5 24	10 0 33	60 2 9	17 2 3	20 1 39
Area held as occupancy tenants.	706	32	426	152	317	...	80	...	156	140
Number of persons, ...	198	6	73	21	68	...	53	..	55	8
	A. R. P.									
Average holding as such,...	3 2 11	5 1 13	5 3 13	7 38 0	5 0 5	...	1 2 1	...	2 3 14	17 2 0
Area held as tenants-at- will.	812	...	487	115	154	7	229	80	247	164
Number of persons, ...	263	...	138	18	54	1	101	23	62	26
	A. R. P.									
Average holding as such,...	3 0 14	...	3 3 10	6 1 22	2 3 16	7	2 1 3	3 1 35	3 3 37	6 1 9
Total holdings, ...	19,135	469	9,509	1,371	7,484	110	8,792	798	6,773	5,960
	A. R. P.									
Average holding, ...	11 2 16	6 2 17	10 0 25	29 0 27	12 3 39	5 2	10 2 13	11 2 38	18 3 10	21 2 15
II.—OCCUPANCY TENANTS.										
Number of persons, ...	1,438	6	2,708	137	1,741	1	2,420	11	2,473	1,647
Area held by them, ...	13,041	50	21,137	1,557	26,750	3	20,512	291	27,988	19,455
	A. R. P.									
Average holding, ...	9 1 33	8 1 13	7 3 10	9 3 25	15 1 18	3	8 0 26	26 1 32	11 1 10	11 3 10
Area held by them as tenants-at-will.	2,303	...	4,261	301	1,949	...	2,199	247	6,430	2,817
Number of persons, ...	400	...	776	59	306	...	431	26	623	471
	A. R. P.									
Average holding as such, ...	5 3 1	...	5 2 0	6 2 20	6 1 19	...	5 0 16	9 2 0	10 1 11	5 3 37
Total holding, ...	15,944	50	25,398	1,748	28,699	3	22,711	538	34,413	22,272
	A. R. P.									
Average holding, ...	11 0 14	8 1 13	9 1 2	12 3 1	16 1 37	3	9 1 22	48 3 25	18 3 26	13 2 4
III.—TENANTS-AT-WILL.										
Number of persons, ...	936	1	1,616	211	1,189	65	1,319	164	878	747
Area held by them, ...	7,350	2	11,691	2,491	10,088	429	10,713	849	9,205	3,367
	A. R. P.									
Average holding, ...	7 3 16	2	7 0 16	11 3 9	8 1 31	5 7	8 0 27	5 2 2	10 1 37	11 0 32

In 1841 there were 2,613 occupancy tenants, holding 33,485 acres in this tract; in the revenue-paying area their number increased to 12,425, holding 131,303 acres, in 1873: in 1841 cultivating proprietors numbered 2,755 souls, holding 41,531 acres; and in 1873 there were 4,629, holding 53,735 acres. Tenants-at-will have fallen from 13,878, holding 121,465 acres in 1841 to 6,708, holding 79,471 acres in 1873, a remarkable commentary on the operation of Act X. of 1859.

In several parganahs the census of ploughs and plough-cattle gives about 25 acres per plough and six acres per bullock, but in an ordinary second-class estate with less than the general average of sand and possessing flush irrigation from the canal a holding of fifteen acres is considered enough for one fully-equipped plough. The area belonging to each plough varies with the character of the soil and the facilities for irrigation. The enormous area of sand and the careless cultivation which prevails in sandy tracts increase the plough area. Thus in Jānsath a plough covers 16 acres of good land and 9 acres of bad land, whilst in the neighbouring parganah of Khātauli the average plough area is $14\frac{1}{2}$ acres of good land and 5 acres of bad. Many estimates have been made of the average area of holdings and the profits derived from them. In this district the Deputy Collector for settlement thinks that 150 *pukka* bighas, or 75 acres, with four 4-bullock ploughs, would be considered a large holding; 60 *pukka* bighas, or 30 acres, would be a middling-sized holding, and 25 *pukka* bighas, or $12\frac{1}{2}$ acres, would be a small holding. All such generalizations, however, must be purely hypothetical as the quality of the soil and the character of the crop are two important elements which must vary in almost every case. If the soil were rich and good, then 20 acres of land would be considered a large farm for a single cultivator. Mr. Williams thinks that, generally speaking, 20 acres, or 40 *pukka* bighas, would be considered a large holding, and anything under ten acres a small one. This calculation comes nearer to the estimates made by the tahsildārs than that of the Deputy Collector. The tahsili estimates give 100 to 150 *kuchcha* bighas (three *kuchcha* bighas are equal to one *pukka* bigha) with four ploughs as a large holding, 70 to 75 *kuchcha* bighas with two ploughs as a middling holding, and 30 to 50 *kuchcha* bighas with one plough as a small holding. Mr. Williams writes:—"The minimum probably applies to the majority of cultivators, and where we got to holdings of 150 *kuchcha* bighas and upwards sub-tenants are almost always in possession. The Settlement Deputy Collector is of opinion that not more than 33 *pukka* bighas, or about 100 *kuchcha* bighas, say from $12\frac{1}{2}$ to 15 acres, can be kept under cultivation by one 4-bullock plough in the year. Everything here depends on the diligence of the cultivator, the nature of the soil and the number and quality of the cattle. The extent of land cultivable by a single plough with a pair of ordinary bullocks is probably never more than 50 *kuchcha* bighas. A couple of good bullocks, worth Rs. 100 the pair, might however possibly get over 70 or 75 bighas, if not more. Double the number, and the work done will be proportionately greater, if the cultivator is diligent. Two pairs of bullocks are generally driven in one plough. The Deputy's calculation about the profits derivable from a holding of five acres are of a most discouraging nature and

Outturn of a five-acre holding.

afford a dismal prospect to the speculator : outturn for average good land irrigated only Rs. 8 per month ; if unirrigated, Rs. 6, and if *blūr* or sandy soil, Rs. 4.

" He stigmatises an estimate of Rs. 12-8-0 a month as being utterly untrustworthy. We therefore see that the annual value of the outturn would be, under the most favourable circumstances, only Rs. 96 a year, or, say, Rs. 100 in round numbers. From this deduct Rs. 32 for rent to the zamíndár, Rs. 10 for canal water, and Rs. 32 for the expenses of cultivation,¹ and only Rs. 22, or at the outside Rs. 26, profit will be left for the unfortunate cultivator. My own personal enquiries tend to confirm the conclusion that such a holding would under no circumstances yield the cultivator Rs. 8 a month. The various estimates before me range from Rs. 2 to Rs. 3, and there can be little doubt that it would take five acres of remarkably good land indeed to support a family. An income of Rs. 48 a year or the equivalent in kind is generally considered to justify a man in attempting to rear a family, but it is impossible to understand how his offspring can possibly survive the experiment, unless their means of subsistence be eked out by something else besides agriculture. There can be little doubt that the solution of the difficulty is to be found in our criminal statistics." The average holding throughout the Ganges canal tract is a little over eleven acres, with an average rental of Rs. 36-7-9, giving an average rent-rate of Rs. 3-4-5 per acre.

Rents in this district may be divided into three classes : *zabtí*, *batdí*, and *tashkhtís*. The first is where cash is paid for certain crops at rates varying according to the kind of crops. Thus sugar, cotton, maize and *chari* or fodder are called *zabtí* crops, and yielded in 1860 a rent averaging Rs. 17, Rs. 8½, Rs. 4 and Rs. 3 per acre respectively, but since then these rents, like those of all other lands, have risen considerably. In 1841 the average *zabtí* rates per acre for the whole district were sugar-cane, Rs. 14-7 ; cotton, Rs. 6-6-5 ; *chari* or fodder, Rs. 2-6-0, and maize, Rs. 3-3-6. *Batdí* is where the rent is taken in kind by actual division of the produce : where an appraisement of the value is made it is termed *kunkút*. The landowner's share of the produce is usually two-fifths, though in bad villages it falls as low as one-third, and in some instances as much as one-half is taken. These rates are also called *nijkári* rates and prevail to a great extent in *bháyachára* villages, and, indeed, as will be seen, throughout the district generally. *Tashkhtís* or *sardársari* is where the land, whether surplus or not, is let out to cultivators, often belonging to other villages, at so much per bigha, irrespective of the crop sown, but divided into irrigated and dry. Six of the local *kuchcha* bighas or two *pukka* bighas are equivalent to an acre, and the rent varies from

¹ The stock-in-trade represented by one plough has been given on a previous page, and implies a capital of Rs. 95 to Rs. 124.

three rupees to twelve annas per acre. Another class of rents is known as '*bilmukta*' where a lump sum in money or a fixed quantity of grain is given for so many fields without any specification of area. All these rents vary with the character of the soil and the cultivators.

The following statement shows the number of estates or villages paying rent in cash and the number paying rent in kind in 1860-61:—

	Shámli.	Kándhla.	Thána Bhawan.	Budhána.	Shikárpur.	Baghra.	Jhanjána.	Chartháwal.	Kairána.
Number of estates, ...	77	76	61	44	62	75	62	66	57
Change to cash rents from kind, ...	...	...	3	...	1	4	...	...	...
Whole villages where cash rents previously prevailed, ...	...	21	2	2	1	4	2	3	9
In which both kinds of rent are tolerably equal,...	64	47	40	38	55	52	40	40	38
In which rent in kind prevails, ...	6	7	10	4	5	15	18	23	10
Cultivators paying in kind,	3,833	3,521	2,565	2,920	5,708	4,703	1,467	3,949	1,238
Cultivators paying in cash,	2,305	2,296	495	3,351	2,684	1,652	1,082	1,476	1,418

	Gordhanpur.	Bidauli.	Muzaffarnagar.	Púr Chhapár.	Khátanli.	Jánsath.	Bháma.	Bharkhei.	Total.
Number of estates, ...	69	55	62	60	82	63	82	70	543
Change to cash rents from kind, ...	...	1	2	1	8	15	12	17	56
Whole villages where cash rents previously prevailed, ...	...	...	11	12	22	6	...	5	63
In which both kinds of rent are tolerably equal, ...	25	24	33	35	52	34	55	27	285
In which rent in kind prevails, ...	37	28	16	9	...	8	8	20	126
Cultivators paying in kind,...	1,604	1,455	2,918	2,277	3,056	3,230	3,253	2,778	20,571
Cultivators paying in cash,...	193	406	1,624	1,891	1,404	2,199	867	2,063	10,647

From the above statement it will be seen that in 1860-61, 20,571 cultivators paid rent in kind against 10,647 cultivators paying rent in cash.¹ Taking cash rents as a whole, they vary from Rs. 6-12-0 to Rs. 3-12-0 per acre for irrigated land and from Rs. 2-10-0 to Re. 1-2-0 per acre for dry land. *Zabti* and *nijkári* rates are still very popular with landowners, and a struggle is always going on to continue these rates. *Bilmukta* rates are usually light and are allowed to favoured tenants, such as the junior branches and relatives of the landowner's family. Writing in 1867, the Collector remarks on the stationary character of *zabti* rates, which for sugar-cane still ruled from Rs. 15 to Rs. 18 per acre, and for cotton the same as in 1841, so that the increased value of cotton during the American war must have gone into the pockets of the cultivators. In 1825, Mr. Cavendish gives the average money-rates per *pukka* bigha for sugar-cane as Rs. 6 to Rs. 7-8; for cotton, Rs. 3 to Rs. 3-12; for *chari*, Re. 1 to Rs. 1-6; for *bájra* and gram, Re. 1-2 to Re. 1-8; for *sámwak*, nine to twelve annas, and for barley, twelve to fifteen annas. Here, as now in Bundelkhand, persons cultivating in villages other than their own (*pahikásht*) had better terms there than in their own villages, and paid only from one-fifth to one-fourth of the produce, while in their own villages they paid from two-fifths to one-half.

The following statement shows the average rents per acre paid by resident and non-resident cultivators of each class in the revenue-paying portion of the six Ganges canal parganahs at the time of revision of settlement in 1871-72. The statistics for the revenue-free area are omitted since they relate to a small area (8,858 cultivated acres), and are subject to influences not usually affecting the ordinary revenue-paying estates:—

Class of cultivator.	Fár Chhapár.		Muzaaffarnagar.		Bhukarheri.	
	Resident.	Absentee.	Resident.	Absentee.	Resident.	Absentee.
<i>I.—Proprietary cultivators.</i>	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
(1) As seer, ...	3 11 6	2 13 7	3 2 11	2 6 8	3 3 3	1 2 10
(2) As occupancy tenants, ...	3 10 4	5 7 7	2 7 0	3 5 0	3 12 9	5 0 0
(3) As tenants-at-will, ...	3 4 8	2 3 11	2 14 6	6 6 1	2 15 10	...
<i>II.—Occupancy tenants.</i>						
(1) As occupancy tenants, ...	3 0 5	2 13 9	4 2 3	4 2 3	3 4 0	3 1 9
(2) As tenants-at-will, ...	2 10 7	2 7 7	2 0 6	3 9 3	2 11 1	3 2 1
<i>III.—Tenants at-will,</i>	3 3 8	2 0 5	2 15 11	2 12 1	2 13 4	3 2 1
Average, ...	3 5 10	2 7 8	3 8 1	3 2 9	3 2 5	2 15 7

¹ The total number of tenants in 1860, given elsewhere, is 36,708, and the above table accounts for only 31,218; I understand the difference, or 5,490 represents the number who pay partly in cash and partly in kind.

Class of cultivator.	Jauli Jansath.		Khātauli.		Bhāma Sambal-hera.		General average.	
	Resident.	Absentee.	Resident.	Absentee.	Resident.	Absentee.	Resident.	Absentee.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
<i>I.—Proprietary cultivators.</i>								
(1) As acer, ...	1 6 8	...	3 14 4	2 12 4	1 10 11	2 5 9	3 1 6	2 7 6
(2) As occupancy tenants.	2 12 1	...	5 4 5	...	3 11 11	1 8 10	3 6 2	2 12 0
(3) As tenants-at-will.	4 4 3	...	3 1 6	1 11 5	3 0 2	1 15 1	3 4 4	2 10 6
<i>II.—Occupancy tenants.</i>								
(1) As occupancy tenants.	3 13 4	3 10 11	4 12 0	4 4 10	2 12 9	2 3 8	3 10 11	3 6 3
(2) As tenants-at-will.	2 15 7	3 5 6	4 4 1	4 6 10	2 12 3	2 14 3	2 13 5	3 4 8
<i>III.—Tenants-at-will.</i>	2 15 2	2 5 6	3 13 11	3 10 5	1 9 10	2 3 3	2 11 7	2 10 5
Average, ...	3 2 7	3 2 4	4 5 4	3 13 1	2 6 5	2 6 0	3 5 8	2 15 5

Taking the entire revenue-paying area of the six parganahs, proprietors cultivate 57,653 acres, giving an average rent calculated on all classes of soil of Rs. 3-1-9 per acre for their home cultivation (49,696 acres) and of Rs. 2-7-8 per acre for their *pahi* cultivation. As a rule, Sayyids pay the lowest rents, next come the Rajpūts, and the Jāts pay the highest. We next come to the distribution of the produce of the soil between the cultivators, the landowners, and Government.

Mr. Thornton, in his report on the assessment under Regulation IX. of 1833,

gives calculations showing the amount of produce from each crop per acre, and considering the large area from

which his data were collected and the care with which the tables were compiled, the results of his inquiries are deserving of attention. He examined the village papers relating to division of crops of villages comprising 413,650 acres for the years 1827 to 1841, and the average produce found for each crop is noted below. The ser employed is that of 90 cross-milled Farukhabad rupees, the maximum weight of which, by Regulation III. of 1806, was 173 grains troy, and the minimum weight was 171.198 grains troy, but for all practical purposes a mean of 172 grains will be nearest the truth.

Produce per acre.	Rice.	Jodr.	Bajra.	Urd.	Saneak.	Moth.	Fine rice.	Wheat.	Gram.	Barley.	Mixed grains.	
											Wheat and barley.	Wheat and gram.
In maunds and sers.	6.0	4.30½	4.0½	3.17	3.19½	2.37½	7.4½	7.15½	5.7	6.34½	3.18½	5.32
In lbs. avoird.	531.29	421.27	354.93	302.96	307.94	260.43	628.59	652.92	457.76	606.48	305.72	514.18½
Value in rupees per acre.	4 12 0 4	5 0 8	3 11 9	3 12 3	1 14 6	2 14 9	6 12 3	7 15 9	4 14 6	5 1 0	3 0 6	5 8 0

In estimating the value of *zabti* crops it is usual to deduct that portion of the field where the crop has failed, and from an examination of the papers relating to 20,247 bighas of *zabti* cultivation the average was found to be three biswas per bigha. In estimating the whole produce of these crops Mr. Thornton preserved the proportion borne in kind rates by rent to the whole produce, and multiplied the *zabti* rate by four to find the value of the produce. Thus, for sugar-cane, which paid an average rent of Rs. 14-7-0 per acre, the value of the produce was Rs. 57-12-0, or deducting the recognized loss, Rs. 48-1-4, and of the rental Rs. 9 per acre went as revenue to Government under the assessments then in force. The cultivator's share in this crop is abnormally high, as he has to give more labour and money to it than to other crops, and it occupies the land over one year. The produce rate per acre for cotton was Rs. 25-8-8, or deducting loss, Rs. 21-13-0, of which Rs. 6-6-5 went as rent, and of this Rs. 4 fell to Government. Similarly in the case of *chari* or fodder the produce value was Rs. 9-8-0 per acre, or deducting loss, Rs. 8-10-9, of which Rs. 2-6-0 went as rent, and of this Rs. 1-8-0 fell to Government. Where rent was paid in kind, Mr. Thornton, after ascertaining the whole produce and deducting one-tenth for cutting and cleaning the crop, estimated that the proprietor took from each maund (40 sers) of grain grown in *misra* soil, 18 sers; in *rausli* soil 17½ sers; in *ddkar* soil 17 sers; in *bhar* soil 15½ sers, and in *danda* or high and poor *bhar* soil 14 sers. The general opinion at the settlement in 1860-61 was that the landowner received only from one-third to two-fifths of the gross produce, and, theoretically, Government takes half of this exclusive of cesses. Mr. S. N. Martin recorded his opinion that, in 1862, the value of an acre of sugar-cane was Rs. 60 to Rs. 70, and in some few cases as high as Rs. 100; that Rs. 15 were paid as rent, and of this one-half went to Government. After deducting expenses of cultivation and water-rate the cultivator's share was not more than Rs. 30.

The following statement gives an estimate of the outturn per acre in first-class or most productive estates, in second-class or middling estates, and in third-class or indifferent estates, made by Sayyid Husain Ali Khán, a large landed proprietor in Jánsath:—

Crop.	Class of estate	Outturn per acre.			Share of produce.		
		Quantity.	Bazar value per rupee in sers.	Total value.	Cultivator's.	Landowner's.	Government.
		M. S.		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Sugar-cane, ...	{ 1	24 0	16	60 0 0	45 0 0	7 8 0	7 8 0
	{ 2	11 8	16	48 0 0	36 0 0	7 0 0	6 0 0
	{ 3	14 1	16	35 0 0	27 0 0	4 8 0	4 8 0
Cotton, ...	{ 1	6 30	10	27 0 0	20 4 0	3 6 0	3 6 0
	{ 2	...	...	...	...	...	...
	{ 3	...	...	...	...	...	...
Jodr, ...	{ 1	5 36	30	7 14 0	4 6 0	1 12 0	1 12 0
	{ 2	4 36	30	6 9 0	3 15 0	1 5 0	1 5 0
	{ 3	4 10	30	5 10 0	3 12 0	0 15 0	0 15 0
Maize, ...	{ 1	10 5	30	13 8 0	7 8 0	3 0 0	3 0 0
	{ 2	9 34	30	13 2 0	7 14 0	2 10 0	2 10 0
	{ 3	8 18	30	11 4 0	7 8 0	1 14 0	1 14 0
Bajra, ...	{ 1	6 0	28	8 9 0	4 13 0	1 14 0	1 14 0
	{ 2	5 12	28½	7 8 0	4 8 0	1 8 0	1 8 0
	{ 3	4 30	28½	6 12 0	4 8 0	1 2 0	1 2 0
Coarse rice, ...	{ 1	10 0	40	10 0 0	5 8 0	2 4 0	2 4 0
	{ 2	9 10	40	9 4 0	5 8 0	1 14 0	1 14 0
	{ 3	9 0	40	9 0 0	6 0 0	1 8 0	1 8 0
Wheat, ...	{ 1	5 10	25	8 7 0	4 11 0	1 14 0	1 14 0
	{ 2	4 28	25	7 8 0	4 8 0	1 8 0	1 8 0
	{ 3	4 10	25	6 12 0	4 8 0	1 2 0	1 2 0
Gram, ...	{ 1	4 30	25	7 10 0	4 4 0	1 11 0	1 11 0
	{ 2	4 28	25	7 8 0	4 8 0	1 8 0	1 8 0
	{ 3	4 10	25	6 12 0	4 8 0	1 2 0	1 2 0
Barley, ...	{ 1	6 30	40	6 12 0	3 12 0	1 8 0	1 8 0
	{ 2	6 22½	40	6 9 0	3 15 0	1 5 0	1 5 0
	{ 3	5 22	40	5 10 0	3 12 0	0 15 0	0 15 0

A similar estimate was made by Lálá Udo Rám, a large banker and land-owner of Muzaffarnagar, from the accounts of his own estates, and also by Mr. S. N. Martin from returns

Other estimates.

furnished by the tahsildárs and patwáris; as a specimen of the latter the average result for tahsil Budhána is given below:—

Crop.	UNDER RAN'S ESTIMATE.						PATWÁRI'S ESTIMATE FOR TAHSIL BUDHÁNA.					
	Out-turn per acre.			Share of produce.						Share of produce.		
	Quantity.	Rate per maund.	Total value.	Cultivator's.	Landowner's.	Government.	Quantity.	Value.	Cultivator's.	Landowner's.	Government.	
	M. S.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	M. S.	Rs. n.	Rs. a.	Rs. a.	Rs. a.	
Sugar-cane, ...	24 0	3 0	72 0	54 0	9 0	9 0	20 8	44 14	22 8	11 3	11 3	
Cotton, ...	2 0	10 0	20 0	13 4	3 6	3 6	4 16	25 2	12 8	6 5	6 5	
Jodr, ...	12 0	1 4	15 0	9 0	3 0	3 0	3 24	5 11	2 15	1 6	1 6	
Maize, ...	12 0	1 0	12 0	7 8	2 4	2 4	5 27	7 13	4 1	1 14	1 14	
Coarse rice, ...	12 0	1 0	12 0	7 4	2 6	2 6	8 18	10 4	3 2	1 9	1 9	
Wheat, ...	12 0	1 4	15 0	9 0	3 0	3 0	7 34	13 10	6 14	3 6	3 6	
Gram, ...	9 0	1 4	11 4	6 12	2 4	2 4	6 32	10 0	5 0	2 8	2 8	
Barley, ...	12 0	0 14	10 8	6 4	2 2	2 2	8 22	10 6	5 4	2 9	2 9	

Taking the whole district, the result of Mr. Martin's examination of the Results for 1272 and papers of the patwáris for 1272 *fusli* (1864-65) gave a 1273 *fusli*. gross produce value amounting to Rs. 62,89,067, of which the cultivators retained Rs. 40,47,262 and the landowners received Rs. 9,70,981, while Government obtained for revenue and cesses Rs. 12,70,824. These figures refer to a total of area of 1,054,065 acres, of which 650,178 acres were cultivated. The average rate of produce per cultivated acre was Rs. 9-10-9, and the average income of each recorded cultivator (99,019 persons) was Rs. 50-10-10. On the whole it would appear that from one-half to three-fifths of the produce is retained by the cultivator, whilst Government gets somewhat more than one-half of the residue, and this agrees pretty well with Mr. Martin's estimate of 60 per cent. of the total produce as the cultivator's share. Similar inquiries were instituted with greater care and more attempts at accuracy in the following year, when the value of the produce of the district was found to be Rs. 63,01,897, of which the cultivator's share amounted to Rs. 39,05,783, or 62 per cent.; the landowner's share was Rs. 11,12,189, or 18 per cent., and the Government share, including cesses, was Rs. 12,83,925, or 20 per cent. These figures are also borne out by the results of an examination made by Mr. Leeds during the same year into the profits of three fair villages: Tissa and Bhúpa in parganah Bhukarheri and Naula in parganah Khátauli. In Tissa the cultivator received 69·6 per cent. of the total produce, the landowner, 13·8 per cent., and Government the remainder. In Bhúpa the figures

were, cultivators, 76·5; landowner, 10·8; and Government, 12·5, with an absentee proprietary and a Jât, Saini, and Taga cultivating body. In the *bhāya-chāra* village of Naula, with a resident Taga proprietary body, the cultivators received only 52·5 per cent., the landowners 23·6 per cent., and Government 23·8 per cent. Increased population and improved means of communication have kept up prices, and though a much larger quantity of grain is produced, it is chiefly exported, and for a long time to come the cultivators must continue to enjoy the present high prices and large share of the profits.¹

The agricultural population, as a rule, are in a flourishing condition and are improving year by year. The industrious Jât communities are especially well-to-do, and no longer in debt, they are able to lay by money by which to add to their possessions. The only portion of the community for which there seems no hope is the great class comprising the old Muhammadan proprietary body: these are surely, if slowly, sinking in importance; their estates are overmortgaged and must sooner or later come to public sale. Year by year portions of these estates come to the hammer on account of debts of long standing, and no amount of loans or advances can retrieve them. From a calculation made in 1864-65, it would appear that the average income of each male cultivator was Rs. 50-10-10, and that they then numbered 99,019 souls.

The statement given below shows the prices per acre obtained at private and forced sales for the whole district from 1841 to 1861, and for the six parganahs revised by Mr. Cadell, for from 1842 to 1870. It will be seen from the latter statements that the price of land has materially risen since the mutiny. The variations in price between 1841 and 1861 in the different parganahs are very remarkable, ranging as they do from over Rs. 25 per acre in Shāmli to Re. 0-15-0 per acre in Gordanpur in the case of private sales and mortgage. The general average for the whole district in this class of transfers for the same period is Rs. 7-14-6, or taking the Gangos canal tract alone, is Rs. 6-11-5 per acre on 56,749 acres. Between 1862 and 1870 the price per acre had risen in the Gangos canal tract to Rs. 15-13-5, or by 136 per cent. The rise in the case of forced sales is quite as marked, being from Rs. 6-12-4 per acre to Rs. 15-14-9 per acre, and varying but little from the prices agreed upon at private sales and mortgages. I have no data for the remainder of the district subsequent to 1861, but the general opinion is that there has been a rise in the price of land all through the district, which, though not so great as that shown to have taken place in the

¹In 1825 Mr. Cavendish records the local estimate of the division of produce in this district as follows: from lumberdārs, one-third of sugar-cane, two-fifths of other produce, and twelve annas per bigha for *chari* went to Government as revenue; from sharers and ordinary cultivators the proportions were two-fifths and one-half, *chari* paying Re. 1-2 per *pukka* bigha.

parganahs of the Ganges canal tract, is sufficiently marked to show that generally the district has participated in the general rise in rent, prices, and the value of land which has taken place all through these provinces since the drought of 1860-61.

Statement showing the revenue, price, and price per acre of the areas transferred regarding which information has been collected from 1841 to 1870.

Parganah.	TRANSFERS BY								Total area trans- ferred.	Average price per acre.
	Private sale and mortgage.				Public sale by civil court.					
	Area.	Revenue	Price.	Price per acre.	Area.	Re- venue.	Price.	Price per acre.		
1841-1861.	Acres.	Rs.	Rs.	Rs. a. p.	Acres	Rs.	Rs.	Rs. a. p.	Acres.	s. a. p.
Shāmlī, ...	6,786	15,699	1,75,073	25 12 9	3,591	5,977	44,915	12 11 6	10,817	21 4 1
Kāndhla, ...	8,782	13,331	1,63,285	18 9 5	2,714	4,313	23,431	8 1 0	11,495	16 3 0
Thāna Bhawan, ...	4,015	6,300	44,780	11 2 5	1,676	2,262	13,735	8 3 2	5,690	10 4 6
Budhāna, ...	3,839	7,498	54,890	14 8 1	1,838	3,037	17,248	9 6 2	5,677	12 11 3
Shikārpur, ...	11,418	18,383	1,07,865	9 7 1	5,067	7,461	25,285	4 15 9	16,485	8 1 2
Baghra, ...	12,395	15,865	35,262	2 13 6	3,869	5,379	19,602	4 13 0	16,264	3 5 4
Jhanjhāna, ...	7,257	11,018	59,763	8 3 9	1,821	2,624	7,626	4 3 0	9,078	7 6 9
Cherthāwal, ...	5,199	8,422	25,339	4 15 6	5,104	7,489	22,133	4 5 4	10,303	4 10 5
Kanāna, ...	3,838	4,638	34,723	9 0 11	2,397	2,627	15,906	6 1 2	6,230	8 2 0
Gordhānpur, ...	5,087	1,477	4,781	0 15 0	1,555	1,073	6,970	4 7 11	6,642	1 12 9
Bidauli, ...	7,147	6,324	8,721	1 3 6	6,132	4,048	6,077	0 15 10	13,279	1 1 3
Muzaffarnagar, ...	11,021	4,868	1,21,380	11 0 3	7,335	5,683	53,199	7 4 1	18,356	9 8 2
Khātanli, ...	12,297	14,535	1,32,798	10 12 9	15,657	22,742	1,89,785	12 11 11	27,954	11 8 7
Bhukarheri, ...	17,579	13,010	67,528	3 13 5	19,040	11,516	58,354	3 1 1	36,619	3 6 8
Pār Chhapār, ...	5,911	4,810	41,896	7 0 1	3,523	5,965	28,838	8 3 2	9,434	7 7 3
Jānsath, ...	10,796	10,691	75,885	7 0 6	1,461	1,364	17,375	11 14 3	12,257	7 9 9
Bhūma, ...	22,365	8,334	98,019	4 6 1	9,431	4,017	34,575	3 10 8	31,796	4 2 9
Total, ...	155,727	1,65,653	12,31,988	7 14 6	92,150	98,767	5,84,464	6 5 6	247,877	7 2 0
1862-70										
Pār Chhapār, ...	2,344	3,183	27,795	11 13 9	1,110	1,578	12,157	10 15 3	3,454	11 9 1
Muzaffarnagar, ...	4,308	5,845	36,492	20 1 3	1,173	1,444	14,807	12 9 11	5,481	18 7 9
Bhukarheri, ...	8,695	6,657	1,15,792	13 5 1	862	974	20,745	24 1 1	9,557	14 4 7
Jānsath, ...	6,351	7,231	1,10,159	17 5 6	775	714	7,468	9 10 2	7,126	16 8 1
Khātanli, ...	6,430	7,482	1,79,469	27 14 7	3,813	5,299	71,002	18 9 11	10,243	24 7 3
Bhūma, ¹ ...	8,262	4,988	56,732	6 3 10	862	744	10,682	12 6 3	9,124	7 6 1
Total from 1862-70.	36,390	35,381	5,76,439	15 13 5	8,595	10,753	1,36,861	15 14 9	44,985	15 13 2
Total from 1841 to 1861 of same six parganahs.	79,989	56,447	5,37,006	6 11 5	56,447	51,127	3,82,136	6 12 4	136,416	6 11 10
Total of same, 1841 to 1870.	116,859	91,828	1,113,445	9 9 1	65,042	61,880	5,18,997	7 15 8	181,401	9 0 0
Khādir, 1862-70.										
Bhukarheri, ...	2,952	557	6,870	2 5 3	...	...	...	...	2,952	2 5 3
Bhūma, ...	3,783	1,189	17,229	4 9 10	32	...	152	4 9 0	3,765	4 9 9
Pār Chhapār, ...	71	2	150	2 1 10	...	...	...	...	71	2 1 10

¹These transfer statements of Pār Chhapār, Bhukarheri, and Bhūma Sambalhera for 1862-70 do not include the *khādir* or valley land which is separately given below.

There are fair materials in existence for judging the rise in prices in this district. Mr. Thornton, in 1841, gave a statement showing the average price of the principal food crops over the entire district during the previous twenty years. He writes that the ser used by him "weighed 90 cross-milled Farukhabad rupees, the maximum weight of which is declared by Regulation III. of 1806 to be 173 grains troy and the minimum weight is 171.198 grains troy." This standard would be more correctly expressed as the Lucknow sikka rupee of the 45th *san* struck in the mint at Farukhabad and established by Regulations XLV. of 1803 and XI. of 1805. The standard adopted by the compiler of the market-rates in Shámli and Muzaffarnagar was 88 Government rupees or 92 old Farukhabad rupees to the ser. The following table exhibits the results both as originally recorded and converted into sers of 80 tolas of 180 troy grains each, the present standard :—

Grain.	Mr. Thornton, ¹ 1821-1840, whole district.		Mr. A. Colvin in Shámli, 1840-41 to 1863-64. ²		Mr. Martin for Muzaffarnagar, 1849-50 to 1863-64.		Khatauli by Mr. Cadell in sers of 80 tolas of 180 grains troy.	
	Sers of 90 tolas each, say 172 grains troy.	Sers of 80 tolas each 180 grains.	Sers of 88 tolas of 180 grains each.	Sers of 80 tolas of 180 grains.	Sers of 88 tolas of 180 grains each.	Sers of 80 tolas of 180 grains.	1840-41 to 1869-70.	1850-51 to 1869-70.
Wheat, ...	36½	39½	31	34	29½	32	29½	27
Gram, ...	42½	45½	36	39½	34½	38	31½	30½
Barley, ...	54½	58½	45½	49½	48½	52½	41½	40½
Coarse rice (unhusked).	51½	55	40½	44½	39½	43½	39	38
Fine rice (unhusked).	42	45½	35	38½	...	...	32½	31½
Múng, ...	3½	33½	31	34	29	32	...	...
Joár, ...	44½	47½	35½	38½	34	37½	30½	29
Bájra, ...	43	46½	34½	38½	35½	39½	...	...
Meth, ...	40½	43½	34½	38½	...	...	...	...
Urd, ...	35½	38½	28½	31½	31	34	28½	26½
Maize, ...	42	45½	36½	40½	...	...	32	29
Masúr, ...	83½	41½	34	37½	...	...	...	...

¹ I, Sel. Rep., 144.² Rep. 1873, pp. 72, 113.

The following statement shows the average¹ price per rupee in sers of 80
tolas of the staple food-grains in the town of Jalálabad
Jalálabad prices.
from 1821 to 1873 :—

Year.	Wheat.	Gram.	Barley.	Common rice (un- husked.)	Maize.	Jodr.	Bájra.	Urd.	Moth.	Til.
1821, ...	28	32	35	42	35	...	30	31½	40	16
1823, ...	40	60	70	55	50	...	35	35	35	26
1825, ...	45	70	75	55	35	37	25	30	29	18
1827, ...	31	45	50	77½	60	50	...	55	50	24
1829, ...	44	55	60	75	55	...	50	50	...	22
1831, ...	40	55	55	100	60	60	45	55	...	24
1833, ...	40	45	45	26	22	...	20	20	21	16
1835, ...	40	50	55	90	60	60	50	70	50	25
1837, ...	35	45	50	35	...	25	30	25	22	16
1840, ...	20	22	30	42	35	...	25	30	28	14
Average,	37	46½	51½	54	41½	32	33½	38	28½	17½
1841, ...	24	28	35	45	45	38	35	40	40	14
1843, ...	40	40	45	50	45	42	35	40	40	16
1845, ...	36	...	45	52½	52½	40	40	37½	40	14
1847, ...	31	...	40	45	35	29	28	30	25	13
1850, ...	40	50	55	36	55	50	40	40	40	25
1853, ...	35	45	50	32	30	...	25	28	30	14
1855, ...	47	65	95	52	45	50	40	40	45	22
1857, ...	40	57	70	72	50	50	...	50	45	17
1860, ...	24	25	30	36	11	10	10	10	10	10
1861, ...	14	15	20	35	22	20	20	20	20	12
1862, ...	28	30	40	80	50	50	42	42	40	16
1863, ...	39	47	75	60	30	25	23	22	25	01
1864, ...	39	35	40	37	30	26	25	25	25	13
1865, ...	23	28	33	40	30	35	25	25	25	14
1866, ...	25	35	40	32	30	25	25	21	25	14
1867, ...	22	28	31	35	25	27	22	24	25	10
1868, ...	26	30	42	18	14	...	12	12	12	10
1869, ...	18	18	25	25	12	12	12	12	12	8
1870, ...	14	14	25	25	16	16	16	14	16	...
1871, ...	25	30	45	50	35	...	...	28	31	15
1872, ...	25	28	40	50	30	30	...	24	24	6½
1873, ...	24	30	40	40	28	28	...	27	28	8
Average,	31½	38½	46½	44½	35	31½	27	30½	...	...
1841-70, ...	30½	38½	48½	43½	32½	32½	...	28½	...	...

Both Messrs. A. Colvin and C. Grant, in 1862, thought that the harvest prices of grain had remained stationary, whilst the retail prices of the village Baniyas had risen, but there can be no doubt that since the mutiny both the harvest price and the retail prices of all edible grains have permanently risen. In his Thána Bhawan report Mr. Colvin states that the harvest price of wheat from 1841 to 1845 averaged 32 sers per rupee in Shámli and 31 sers in Kairána, falling between 1855 and 1859 to 36 sers per rupee in Shámli and 35 sers per rupee in Kairána. He attributes the highness of the rate in the first five years as due to the influence of the famine of

¹ The general averages are calculated on the average price for each year, not for the years given in the above table alone.

1837-38. In 1860-61 the famine price of wheat rose to $8\frac{1}{2}$ sers per rupee, and the average price from 1862 to 1873 was 25 sers per rupee in Jalálabad. Mr. Grant, in his Bhukarheri report, notes that the produce which could be purchased at harvest for Rs. 100 in 1840, according to Mr. Thornton's tables, would cost in 1860 as follows in eight selected parganahs:—

Parganah.	Present cost of produce valued at Rs. 100 in 1840.	Increase or decrease per cent.	Parganah.	Present cost of produce valued at Rs. 100 in 1840.	Increase or decrease per cent.
	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
Bhukarheri,...	94 11 0	Decrease 5 5 0	Bidauli, ...	97 3 0	Increase 2 13 0
Bhúma, ...	99 0 6	Ditto 0 15 6	Thána Bhawan.	102 15 0	Ditto 2 15 0
Jánsath, ...	109 14 4	Increase 9 14 4	Jhanjhána, ...	97 12 0	Decrease 2 4 0
Khátauli, ...	97 14 0	Ditto 2 2 0	Chartháwal, ..	100 15 0	Increase 0 15 0

The average of all the parganahs shows that the produce procurable for Rs. 100 in 1840 costs only Rs. 100-8-1 $\frac{1}{2}$ in 1860, but, as stated above, it is since then that the great and permanent rise in prices has taken place.

The following statement shows the prices ruling in Shámli and Muzaffarnagar from 1840-41 to 1863-64, and in the district generally from 1858 to 1867: S=Shámli and M=Muzaffarnagar. The ser given up to 1863-64 contains 88 tolas of 180 grains troy each:—

Year.	Wheat.		Barley.		Gram.		Maize.		Jodr.		Bajra.		Common rice.		Urd.	
	S.	M.	S.	M.	S.	M.	S.	S.	M.	S.	M.	S.	M.	S.	M.	
1840-41,	22	...	32	...	24	...	24	21½	...	21	...	31	...	19	...	
1842-43,	29	...	40	...	31	...	35	31	...	30	...	45	...	26	...	
1845-46,	30	...	40	...	35	...	42	40	...	38	...	51	...	30	...	
1848-49,	32	...	60	...	40	...	32	40	...	37½	...	45	...	35	...	
1849-50,	30	34 ¾	46½	54 ⅝	37	27 ⅝	33	31	40 ¾	38	40	47	45 7/8	23	25 ⅝	
1851-52,	44	38 1 ⅙	52½	65 ⅜	47	40 ⅜	45	50	39 ⅝	40	48 1/8	52½	39 1/8	30	32 1 ⅙	
1853-54,	33	28 1 ½	52½	38 ⅜	42	29 ⅜	35	35	31 7/8	34	35	42	35 ⅝	32	29 ⅝	
1855-56,	45	27 ⅝	55	76 ¾	50	46 ⅜	45	46	48 1 ⅙	42	48 ½	51	48	43	40 1 ⅙	
1858-59,	32	27 ⅝	50	40 1 ⅞	40	38 1 ⅙	27	26	32 ½	27	33 1 ⅙	32½	40	23	32 ½	
1860-61,	25	12 7/8	27	16 ½	27	12 ⅝	9	9	13	9	14 ⅝	13	16 1 ⅙	8	10 ⅝	
1861-62,	13	14 ⅝	18	19	14	13 ⅝	30	25	18 ⅝	25	19 ⅝	35	24 ¾	22	18 ⅝	
1862-63,	29½	31½	42	49 7/8	34	28 ½	42	37½	34 ⅝	38	33 ⅝	45	50 1 ⅙	16	31 1 ⅙	
1863-64,	38	28 1 ⅙	60	44 1 ½	48	31 ⅝	45	40	29 ⅝	1	39 1 ½	45	...	22	25 1 ⅙	

Average prices throughout the whole district in sers of 80 tolas equal to 2·057lbs. avoirdupois.

	Wheat.	Barley.	Gram.	Maize.	Jodr.	Bajra.	Common rice.	Urd.	Mung.	Moth.	Cotton.	Cotton seed.	Glā.	Oil.	Salt.	Gúr.
1853, ...	30	45	40	40	40	40	43 $\frac{1}{2}$	40	35	40	4 $\frac{1}{2}$	51	2 $\frac{3}{4}$	7	...	16
1859, ...	28	35	32	32	35	35	33	32	30	35	4	40	2 $\frac{3}{4}$	6	8 $\frac{1}{2}$	14
1860, ...	8 $\frac{1}{2}$	10	10	10	10	10	16	9	10	10	3 $\frac{1}{2}$	22	2 $\frac{3}{4}$	5	8 $\frac{1}{2}$	10
1861, ...	16	20	13	28	27	27	32	13	13	27	3	40	2 $\frac{3}{4}$	5 $\frac{1}{2}$	6 $\frac{1}{2}$	8
1862, ...	35	60	30	50	35	35	50	35	32	35	6 $\frac{1}{2}$	40	2 $\frac{3}{4}$	7	7 $\frac{1}{2}$	24
1863, ...	21	27 $\frac{1}{2}$	21	32	30	30	30	20	24	30	1 $\frac{3}{4}$	30	2 $\frac{3}{4}$	3 $\frac{1}{2}$	6 $\frac{1}{2}$	12
1864, ...	21	27 $\frac{1}{2}$	23	27	27	27	31	20	20	27	1 $\frac{1}{2}$	30	1 $\frac{3}{4}$	5	6 $\frac{1}{2}$	11
1865, ...	21	27 $\frac{1}{2}$	22	25	25	25	32	21	14	25	3	30	1 $\frac{3}{4}$	7 $\frac{1}{2}$	7	10
1866, ...	20 $\frac{1}{2}$	34	25	27	25	25	25	24	29	25	2 $\frac{1}{2}$	30	1 $\frac{3}{4}$	7 $\frac{1}{2}$	7	17
1867, ...	23	32	19	26	26	26	35	22	20	25	3 $\frac{1}{2}$	30	1 $\frac{3}{4}$	5 $\frac{1}{2}$	7	7

These district averages are merely approximate, for the variations between them and the tahsil averages are very great and are hardly reconcileable on any theory.

Jalálabad is the great grain-mart of the district, and though from its position removed from the rail and the great lines of communication, the average rate per rupee is a ser or two lower than in Khátauli and Muzaffarnagar, still the prices ruling there must more nearly correspond to those obtaining in the greater number of the grain-markets, throughout the district than in marts having exceptional advantages of position and trade like Khátauli. The difference is greatest in the case of the cold-weather crops, for, as the rains follow immediately after the harvest, there is little opportunity of transferring the crop to distant markets. The difference is least in the price of cotton and *gúr*, the latter of which is exported in the dry season. Comparing the prices for twenty years before 1841 in Jalálabad with those of the last twenty years ending in 1870, it appears that the price of wheat has risen 16 per cent.; that of gram, 17 $\frac{1}{2}$ per cent.; barley, 7; *joḍr*, 20 $\frac{1}{2}$; *urd*, 28 $\frac{1}{2}$; maize, 30; *munji* rice, 20; common rice, 18 $\frac{1}{2}$; *gúr*, 15; and cotton, 34 per cent. In commuting rents, Mr. Cadell has assumed 30 district sers or 33 standard sers per rupee for wheat as a fair average harvest price, and explains that though "this rate may appear, at first sight, to be needlessly low, yet care must be taken to fix rates which can be paid without difficulty in all except the most unfavourable years. Tenants, as a rule, have no capital on which to draw, and a price more nearly approaching to the minimum than to the arithmetical average must in practice be assumed." Comparing the statistics of

prices generally before 1861, we find the average price in local sers of wheat between 1822 and 1841 was 36·16 sers, and between 1842 and 1861 was 34·15 sers, and between 1838 and 1857 was 33·8 sers. Or if we take twenty-five years in each period from 1818 to 1842 and from 1838 to 1862, we find that in the first period the average rate was $34\frac{2}{3}$ sers to the rupee, and in the latter $32\frac{1}{3}$ sers, so that the price of wheat is shown by both calculations to have risen about six per cent. in the north-western portion of the district. In other parts it is probable that improved communications had, even before 1861, caused a relatively greater rise in the price of grain, and it appears that prices have generally ranged higher in the eastern and more especially south-eastern parganahs. In no part, however, can the rise previous to 1861 have exceeded 10 per cent. Between 1824 and 1841 the average price of cotton was 20·3 sers to the rupee, and between 1842 and 1861 it rose to 16·3 sers. In 1862 it rose to 12 sers and in 1863 to 7 sers. *Gir* sold on an average between 1822 and 1841 at 20·1 sers per rupee, and between 1842 and 1861 at 17·18 sers per rupee, showing a greater rise than grain, but less than cotton. The rise in prices was in no case very great up to 1861, and even in the eastern parganahs can never have been more than from 8 to 10 per cent. "There is, therefore, apparently," writes Mr. Cadell, "as little ground for Mr. Martin's rise of 25 per cent. as there is for the fall discovered by Messrs. A. Colvin and C. Grant. Mr. Martin, unfortunately, selected for comparison with Mr. Thornton's average of twenty years, a few years which included a famine. Messrs. Colvin and Grant, on the other hand, carefully excluded all years of scarcity and then compared the result with Mr. Thornton's average, taken from a period which closed with five years of famine prices."

The cultivator, except he be a Jât, has often to borrow money at an usurious rate of interest to stock his farm : hence the axiom that cultivation is generally synonymous with indebtedness. Cent. per cent. is not unknown, 72 per cent. is by no means rare, and 50 per cent. is common enough. A man who effects a loan at 36 to 37 per cent. is considered lucky, and money is lent at 18 to 24 per cent. only on the very best security. The lowest rate known is 15 per cent. The money-lenders are chiefly Bohras, and they generally commence each transaction by adding on 25 per cent. straight off. For example, if a man borrows Rs. 20 from a Bohra, he is obliged to allow the Bohra to put down Rs. 25 against him in the bond.

In 1875 mistry bricklayers received Rs. 15 per mensem; mistry smiths, Rs. 15, and mistry carpenters, Rs. 12 to Rs. 15. Skilled bricklayers, carpenters and smiths received six annas per day, and ordinary smiths and bricklayers five annas, and carpenters four annas. The wages of tilers and thatchers was three to four annas; of mate beldárs, three annas; beldárs, $2\frac{1}{2}$ annas; coolies, $1\frac{1}{2}$ annas, and boys, $1\frac{1}{2}$ annas. In 1850 beldárs

received two annas per day, and carpenters, bricklayers and blacksmiths three annas. With these may be compared the monthly wages of workmen ruling from 1858 to 1867:—

	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.
	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
Dyers, ...	4 2	4 8	3 14	4 0	3 4	4 10	4 12	5 4	5 4	5 6
Potters, ...	3 2	2 14	3 4	3 4	3 4	3 14	4 4	4 6	4 10	4 14
Tanners, ...	4 0	4 0	4 0	4 0	4 8	4 14	5 2	5 6	5 12	6 0
Weavers, ...	3 8	3 8	3 6	4 4	4 6	4 14	5 4	5 10	6 0	6 4
Cloth-printers, ...	3 2	3 2	3 2	3 14	3 14	4 2	4 12	4 12	4 14	5 4
Brick-burners, ...	4 0	3 12	3 12	4 6	4 14	5 12	5 14	6 2	6 6	6 10
Carpenters, ...	5 10	5 10	5 10	5 14	4 10	6 12	6 12	7 0	8 12	7 0
Blacksmiths, ...	4 14	4 14	5 4	5 8	5 8	5 12	5 12	6 0	5 4	6 2
Cotton-carders, ...	3 4	3 0	3 0	3 4	3 10	3 10	3 12	3 12	4 4	3 12
Tailors, ...	5 0	4 12	4 12	5 0	5 0	5 4	5 4	6 0	6 0	6 4
Boatmen, ...	3 0	3 0	3 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0
Masons, ...	4 2	4 2	4 10	5 0	5 0	5 0	5 12	5 12	6 0	6 12
Labourers, ...	3 0	3 0	3 0	3 2	3 2	3 8	3 8	4 4	4 8	4 12
Farm-labourers, ...	1 14	2 4	2 4	2 4	2 4	2 14	3 0	3 0	3 0	3 0
Ploughmen, ...	2 12	2 12	3 4	3 0	3 0	3 0	3 8	4 0	4 0	4 0
Water-carriers, ...	1 12	1 12	1 12	1 12	2 0	2 0	2 4	2 4	2 4	2 4
Sweepers, ...	2 0	2 0	1 0	1 0	2 0	2 0	2 0	3 0	3 0	3 0

The rates above given are those prevailing in the rural portions of the district. In 1825, and now in most villages, the following dues were collected by the landowners:—Rs. 1 on each loom and each labourer's house; Rs. 2 on each dyer's, printer's and shepherd's house and on each oil-mill; Rs 3 on each goldsmith's house, and thirty-two pairs of shoes from each shoemaker. A due was also taken from grain-parohers and on marriages.

The tahsildárs estimate the number of landless, unskilled labourers in each tahsíl to be as follows, and there is reason to believe that their figures sufficiently represent facts for all practical purposes:—

Tahsíl.	Total labourers.	Agricultural.	Tahsíl.	Total labourers.	Agricultural.
Jánsath, ...	25,000	10,000	Shámli,...	40,155	20,000
Muzaffarnagar, ...	27,481	10,000	Budhána, ..	20,000	14,000

These figures give 54,000 male adult agricultural day-labourers in the whole district. This class consists principally of Chamárs, Sainis, Kahárs,

Julúhas, and Gáras, with a few Játs. The nominal rate of pay is from one and a half to two annas a day, but in reality they receive an equivalent according to the nature of their work. Thus reapers receive a sheaf (*púli*) of the crop that is being cut, which yields or is supposed to yield five *pukka* sers of grain, besides the straw. The five sers are apparently understood to represent one kucheha bigha of work. Weeders, again, usually get two annas a day and sometimes work by contract. Ploughmen ordinarily get one-eighth of the produce of the land ploughed, four kucheha maunds going to the blacksmith and carpenter who made the plough. The services of the Chamár, Saini and Kahár women are extensively employed in weeding at the rate of one or one and a half anna a day; in plucking cotton or saffron, getting one-tenth, one-sixth, one-fifth, or even one-fourth of the former, and one-sixth, one-third, or one-half of the latter, as the case may be; and in transplanting rice, receiving from two to two and a half sers a day. They are also sometimes employed in cutting *chari* at one and a half anna a day. The fluctuations in the rate of wages for plucking cotton are remarkable. The limit of remuneration to female labour is said to be two annas or the equivalent. Children of the same castes are employed as cowherds and for gathering fuel. It is difficult to ascertain the estimated value of their services: perhaps thirteen or fourteen kucheha maunds of grain, a year, come nearest to the mark. As sugar-cane is not sold by weight, labourers get so many sticks of cane with the green leaves on (*gaula*) for cutting it. Obviously the system of payment in kind is as profitable to the day-labourer and the artisan as it is convenient to the cultivating proprietor, because a couple of annas or so, supposed to be the equivalent of the produce received in return for the services rendered, would not purchase the same amount of raw material in any of the district markets. This circumstance explains the possibility of maintaining existence amid poverty, to which the circulation of the current coinage is almost unknown. In 1825 Mr. Cavendish wrote:—"There are no slaves, but a kind of hereditary connection appears to exist between the zamíndárs and the low-caste (Chamár) ploughmen employed by them. The latter cannot change masters, but they may become day-labourers or leave the village. The village servants¹ are chiefly paid in kind, and all appear to be removable by the zamíndárs except the sweepers." In nothing has the loveling nature of our administration been shown more than in the emancipation of these village serfs, who are now free to move where they like and take service with any one they please.

The district, as already noted, is essentially an agricultural one, and the exports are entirely of country produce. Some attempts were made between 1868 and 1871 to gauge the amount of produce locally consumed and the amount of produce exported; the

¹ Both the patwári and village watchmen were then chosen by the people and were servants of the community.

results of the enquiries then instituted may be given as follows in standard maunds:—

Year.	Rice.	Cotton.	Oil-seeds.	Joár and hájra.	Wheat and barley.	Pulses.	Other crops.	Total.	
1868-69, {	Exports,	43,263	34,785	1,500	15,672	1,499,340	34,000	523,288	2,151,798
	Retained,	241,577	14,315	11,960	109,314	1,469,105	23,389	2,066,486	3,930,145
	Total,...	284,840	49,050	13,460	124,986	2,968,445	57,389	2,589,773	6,087,943
1869-70, {	Exports,	246,106	40,209	1,314	42,950	1,500,021	5,315	421,212	2,263,127
	Retained,	150,375	36,492	11,119	510,805	1,469,105	61,247	2,916,861	5,156,004
	Total,...	396,481	82,701	12,433	553,755	2,969,126	66,562	3,338,073	7,419,131
1870-71, {	Exports,	251,690	74,710	...	45,000	1,475,990	6,230	302,640	2,156,260
	Retained,	189,129	25 010	15,455	547,770	1,436,850	51,324	2,334,515	5,100,053
	Total,...	440,819	99,720	15,455	592,770	2,912,840	57,554	3,137,155	7,256,313
Average, {	Exports,	180,353	51,885	933	34,541	1,491,784	15,181	415,713	2,190,395
	Retained,	193,693	25,272	12,814	389,296	1,458,353	45,320	2,605,954	4,730,732
	Total,...	374,046	77,157	13,782	423,837	2,950,137	60,501	3,021,667	6,921,127

Taking these tables as tolerably fair estimates, it appears that wheat and barley, rice and the millets form the staple of the exports, and that the district, on an average, can spare about 80,000 tons of food-grains for export. The only other data relating to trade statistics at present in existence are the octroi returns of the several Municipalities given hereafter under Muzaffarnagar, Shámli, Kairána, and Kándhla, and but little can as yet be gleaned from them.

The following statement compiled from the treasury accounts shows the income and the expenditure upon civil administration for the years 1860-61, 1870-71, and 1873-74:—

Receipts.	1860-61.	1870-71.	1873-74.	Expenditure.	1860-61.	1870-71.	1873-74.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Land-revenue, ...	10,16,160	11,30,316	12,26,946	Land-revenue (salaries and contingencies)	78,192	70,821	60,043
Excise, ...	28,362	42,570	42,552	Excise, ...	4,169	13,495	3,182
Stamps, ...	29,668	65,728	72,907	Stamps, ...	4,747	3,136	857
Law and justice, ...	10,111	9,236	14,598	Law and justice, ...	40,777	17,021	34,461
Income-tax, ...	29,380	79,143	...	Income-tax, ...	7,894	1,299	...
Local funds, ...	72,111	1,33,642	60,260	Local funds, ...	75,072	99,791	64,107
Canal collection, ...	2,03,084	3,70,200	3,64,799	Public funds, ...	13,115	1,06,523	2,55,126
Post-office, ...	4,251	8,814	10,834	Post-office, ...	95	7,081	13,761
Police, ...	4,277	3,348	2,502	Pensions, ...	7,804	16,562	21,182
Mutiny, ...	10,452	..	...	Police, ...	1,17,829	56,819	96,059
				Remittance charges, ...	88	204	748
				Settlement charges, ...	...	22,659	36,911
				Mutiny, ...	28,568	...	...
Total, ...	14,07,856	16,42,997	17,95,396	Total, ...	3,78,860	4,24,417	5,86,827

In 1857-58, the first year for which records remain, the revenue was Rs. 12,51,194 and the expenditure amounted to Rs. 2,47,812. The following statement shows the number of estates upon the revenue-roll of the district with the total land-revenue paid and the number of registered proprietors paying land-revenue direct to Government for three years since the mutiny.

	1857-58.	1860-61.	1870-71.
Number of estates, ...	1,139	1,143	1,198
Number of registered proprietors or coparceners, ...	3,283	3,266	2,227
	Rs.	Rs.	Rs.
Total land-revenue paid by all estates ...	11,07,124	10,04,562	10,36,643
Average land-revenue paid by each estate, ...	972	1,008	873
Average land-revenue paid by each proprietor, ...	342	307	465

The number of incomes over Rs. 500 for the purposes of the income-tax of 1870 was 2,106, giving an aggregate income of Rs. 51,25,395.

Income-tax.

The actual assessment at six pies in the rupee during 1870-71 on incomes exceeding Rs. 500 was Rs. 81,753. There were 1,041 incomes between Rs. 500 and Rs. 750 per annum; 353 between Rs. 750 and Rs. 1,000; 294 between Rs. 1,000 and Rs. 1,500; 189 between Rs. 1,500 and Rs. 2,000; 228 between Rs. 2,000 and Rs. 10,000; 10 between Rs. 10,000 and Rs. 1,00,000 and above Rs. 1,00,000; total persons assessed were Rs. 2,115.

Stamp duties are now collected under the General Stamp Act (XVIII. of 1869) and under the Court Fees' Act. The following statement shows the revenue and charges under this

Stamps.

head for a series of years:—

Year.	Adhesive stamps and hundis.	Blue-and-black document stamps.	Court fees.	Duties and penalties realised.	Total receipts.	Gross charges.	Net receipts.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1862-63, ...	794	34,522	...	15	35,331	2,611	32,720
1863-64, ...	770	40,735	...	79	41,584	3,195	38,389
1864-65, ...	660	40,623	...	430	41,713	2,696	39,017
1865-66, ...	825	46,371	...	16	47,312	3,162	44,150
1866-67, ...	607	42,634	...	105	43,396	3,196	40,200
1867-68, ...	694	55,951	...	288	56,933	3,779	53,154
1868-69, ...	582	61,620	...	60	62,262	3,735	58,527
1869-70, ...	574	72,644	...	419	73,637	4,202	69,435
1870-71, ...	516	17,196	47,259	525	65,496	3,648	61,848
1871-72, ...	523	16,203	46,468	43	65,237	1,534	63,703
1872-73, ...	584	20,356	51,599	69	72,608	1,661	70,947

In 1871-72 there were 2,878 documents registered under the provisions of the Registration Act (VIII. of 1871), on which fees to the amount of Rs. 6,832 were collected. The expense of establishment, &c., during the same period amounted to Rs. 2,721. There were 1,916 registrations affecting immovable property in which the registration was compulsory under section 17 of Act VIII. of 1871, and 602 in which the

Registration.

registration was optional. The other registrations affected refer to movable property, wills, &c., and the total aggregate values of all the documents registered amounted to Rs. 12,79,649.

The following statement shows the revenue due to excise during the ten years 1862-63 to 1871-72 in this district :—

Excise.	Year.	License fees for vend of spirits.	Duty on spirits.	Opium.	Tári.	Intoxicating drugs.	Fines, &c.	Gross charges.	Net receipts.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
	1862-63, ...	869	15,108	13,682	...	1,038	...	741	29,951
	1863-64, ...	4,569	12,951	14,076	...	945	6	1,132	31,415
	1864-65, ...	9,009	13,378	11,979	...	1,734	820	8,582	28,388
	1865-66, ...	10,998	12,108	16,992	...	2,355	64	11,272	31,240
	1866-67, ...	11,645	13,434	20,176	9	1,424	515	12,980	34,223
	1867-68, ...	13,345	12,418	23,920	...	1,577	46	15,244	36,062
	1868-69, ...	19,447	10,399	24,704	...	2,087	54	15,162	41,629
	1869-70, ...	1,340	7,913	24,837	...	1,659	58	15,886	20,422
	1870-71, ...	6,384	11,608	21,884	...	2,223	12	13,362	28,849
	1871-72, ...	11,885	15,055	20,640	...	2,285	18	12,185	37,638

Canal revenue. The following statement shows the receipts and charges on account of canals for a series of years :—

GANGES CANAL.					EASTERN JUMNA CANAL.				
Year.	Collections.	Patwáris' fees.	Establishment.	Net collections.	Year.	Collections.	Establishment.	Fees.	Net collections.
	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
1866-67, ...	1,78,838	3,447	965	1,74,426	1866-67, ...	49,009	295	2,307	46,407
1867-68, ...	2,38,855	4,819	864	2,33,172	1867-68, ..	1,66,315	290	2,678	1,63,347
1868-69, ...	1,84,029	3,586	850	1,79,593	1868-69, ...	...	Nat	given.	
1869-70, ...	2,45,948	9,352	873	2,35,718	1869-70, ...	1,67,555	299	2,578	1,64,678
1870-71, ...	1,91,939	10,328	859	1,80,752	1870-71, ...	...	Not	given.	
1871-72, ...	1,94,336	8,208	864	1,86,264	1871-72, ...	1,46,895	296	5,963	1,40,636
1872-73, ...	1,91,149	8,500	791	1,81,858	1872-73, ...	1,41,865	275	7,611	1,33,979

Tradition connects the district with the Pándava Ráj of Hastinápura, and subsequently with the Chauhan kingdom of Dehli, ruled over by Prithiráj. Khúda, Khúdi, and Baghra in the eastern tract were then the seats of petty Rajas subordinate to the Dehli ruler. The Musalmáns became paramount in the beginning of the thirteenth century, and from that time to the dissolution of the empire Muzaffarnagar continued to be a dependency of the sovereigns of Dehli. The earliest colonists were Rajpúts, Tagas, and Brahmans. The Rajpúts belonged to the Gaur and Pundir clans and the Brahmans to the great Gaur subdivision. Next came the Játs, who arrived in wave after wave, and gradually occupied nearly the

wholo of the south of the district. To the north in Púr, Chartháwal, Shikárpur and a few of the eastern parganahs, Tagas are still to be found, but in the wholo of the western parganahs and in Kándhla and Bhúma they have almost entirely disappeared and given place to Játs. These latter now form the characteristic element amongst the proprietary agricultural communities throughout two-thirds of the district. The Játs occupied all the more fertile portions of the district, leaving the parganahs with a sandy soil along the course of the Ganges canal, Bidauli and Kairána on the extreme west and Gordhanpur on the extreme east, open to other colonists. These tracts were afterwards taken up by Gújars, who there still form the majority of the proprietary population. Occasionally too, as in Púr, stray colonies of Tagas joined the Gújars and found their way into places which the Játs declined to colonise, and subsequently great immigrations of Shaikhs, Sayyids and Patháns took place and parcelled out amongst themselves the remainder of the district.

The first great event connected with the district of which we have any distinct record in the Persian histories is Tímúr's invasion which took place in January, 1399 A.D.¹ After the sack of Meerut the conqueror marched northwards through the Meerut district by either Fírozpur in parganah Hastinápur of the Meerut district or Fírozpur in parganah Bhukarheri of this district,² towards Tughlikpur in parganah Púr Chhapár, and when he had got within five kos of his encamping-ground he heard that the Hindús had assembled at the fords of the Ganges. Tímúr then sent on a force of 5,000 horse to disperse the enemy and marched with the remainder of his forces to Tughlikpur. Whilst there, information was received of a force of Hindús coming down the river in forty-eight boats with the intention of fighting. The account of the naval contest that ensued may be given in Tímúr's own words:—"I mounted my horse, and, taking with me one thousand troops who were at hand, we struck our heels into the flanks of our horses and hastened to the side of the river. As soon as my braves saw the boats, some of them rode their horses into the river and swam to the vessels; then, seizing fast hold of the sides, they defeated all the efforts of the Hindús to shake them off. They forced their way into some of the boats, put the infidels to the sword, and threw their bodies into the river; thus sending them through water to the fires of hell. Some of my men dismounted, and, proceeding to the ford, assailed the enemy with arrows. The occupants of the boats returned the arrows, but the vessels were at length wrested from their possession and were brought with their contents to my presence. The enemy had lashed ten of their boats together with chains and strong ropes, and these vessels maintained the fight. My men plied them with arrows till they slew many of them; they then swam off and, boarding the boats, put every living soul to the sword, send-

¹ Dowson's Elliot, III., 153.

² I am inclined to think that the Fírozpur in Meerut is intended.

ing them through water to the fires of hell." After this affair of the boats Tímúr returned to Tughlikpur, and thence crossed the Ganges higher up into the Bijnaur district. Bábar, too, in his fifth expedition passed down the Duáb through this district, but for many years we have no specific mention of it or its people. The doctor Mukarrab Khán, the Bárha Sayyids, and the Sikhs are those alone whose history need detain us in a short historical sketch like the present one.

During the reign of Akbar and his successors this district became a favourite resort of the nobles of the court, many of whom obtained Naváb Mukarrab Khán. *jáglrs* here. Shaikh Hasan or Hassu, a son of Shaikh Bína (or Bhaniya) of Pá nipatrose to great eminence under Jahángír and received the title of Mukarrab Khán. Both father and son were by profession surgeons, and in 1597 A.D. they succeeded in curing a bad wound which the Emperor Akbar had received from a buck at a deer fight. Hassu was physician to Prince Salím, who on his accession to the throne made him governor of Gujrá t. In 1618 he was removed to Bihar, to make way for Prince Sháhjahán, and in 1621 we find him governor of Agra. On the accession of Sháhjahán, Mukarrab Khán was pensioned and received Kairú na, his native town, and the surrounding parganahs in *jágír*. His son Rizk-ullah was a doctor under Sháhjahán and a commander of 800. Aurangzeb made him a Khán. He died in 1668 A.D. The poet Sadullah, known by his *takhallus* of *Mashta-i-kairánawi*, who wrote an epic poem on the loves of Sí ta and Rá ma, was the adoptive son of Mukarrab Khán. A follower of Mukarrab Khán founded Shámli, but the entire *jágír* was resumed by Bahádur Sháh.

The history of the Bárha Sayyids is so intimately connected with this district that a brief notice of their families and the influence that they once exercised is necessary to complete the local history of this portion of the Duáb. Towards the latter half of the fourteenth century the Sayyids generally seem to have attained to considerable power, and may possibly have induced the Panjábi Sayyids to move to their assistance. However this may be, at the beginning of the fifteenth century we find the throne of Dehli occupied by a Sayyid dynasty and the numerous offspring of Ali and Fatima crowding to the court for places and pensions, and they were not disappointed in their quest, for these Sayyid emperors were munificent patrons of their co-religionists. In 1414 A.D. the Sultan Khizr Khán conferred the *shikk* of Sahá ranpur on Sayyid Sá lim, the chief of the Sayyids,¹ and though, as hereafter shown, the Sayyid settlements in Muzaffarnagar can be traced back to the middle of the fourteenth century, we may safely assume that their progress and extension were influenced, in no small degree, by the existence of a Sayyid dynasty at Dehli and of a Sayyid governor in the Sahá ranpur *shikk*. The Sayyids of the Bárha themselves do not give a chronologically accurate

¹ Dowson's Elliot, IV., 46. The authorities for the local history of the Sayyids are notes by Messrs. Leeds, Blochmann and Cadell, the records of the Board of Revenue, and local inquiries.

account of their origin and history. According to their family chronicles, they are descended from one Sayyid Abul Farah of Wásit near Baghdád, who, owing to the troubles caused by Hulágú's invasion of Baghdád, emigrated to India with his twelve sons in the time of Nasir-ud-dín Mahmúd, son of Iltimish (Altamsh), who reigned from 1246 to 1265 A.D. Abul Farah is said to have remained in India until the time of Sikandar Lodi (1488-1517 A.D.), when, hearing of the death of Hulágú, he returned to Persia, leaving, by the emperor's command, four of his sons, who eventually became the heads of the four great branches of the Sayyid family in this district. The dates alone show the chronological incorrectness of this account. The four brothers settled in the Panjáb in villages now in the Patiála territory :

- (1.) Sayyid Daúd settled in Tihanpur.
- (2.) Sayyid Abulfazl settled in Chhatbanúr.
- (3.) Sayyid Abulfazáil occupied Kúndli.
- (4.) Sayyid Najm-ud-dín Husain settled in Jagner.

The Chhatbanúr branch is also known as the Chhatrauri, and the Jagner branch has the synonym of Jhajari. After their settlement in these villages the local history makes the Sayyids continue "in the service of Shiháb-ud-dín Ghori" (1193-1205 A.D.), another manifest anachronism. The oldest inscription that has been discovered relating to the Sayyids of this district is that on the tomb of Ibn Sálár Chhatrauri, the Sálár Auliya at Sambalhera. It bears date 777 H. (1375 A.D.), and local tradition makes him eighth in descent from Abul Farah.¹

Regarding the present condition of the home of the Sayyids in Patiála Mr. Cadell writes :— "A Kúndliwál told me that he had been in Patiála when in service in the Panjáb, and that he had gone to see the cradle of his race. He says that the true name is Chhatbanúr, now a large town with several thousand Sayyid inhabitants. In Kúndli there are only a few huts. Tihanpur is a petty hamlet and Jagner is uninhabited." Shortly after the settlement in the Panjáb the family divided

into two branches, one of which settled at Bilgrám in Oudh and sent a colony to Márahra in the Eta district, and the other emigrated to the Duáb. Both families claim relationship with the Sayyids of Khairabad and Fatehpur Haswa, but as early as the reign of Akbar, the pretensions of the Bárha Sayyids to be descendants of Ali and Fatima were not accepted by their contemporaries.

¹ The text of the inscription (Proc. A. S., Ben , 1872 166) runs as follows:—

- " 1. The beginning of the building of this tomb was on 3rd Jumáda I.
2. After 777 years had passed away since the flight of the beloved prophet.
3. (During) the reign of Firúzsháh of high fortune, whose throne is the highest heaven, the victorious, the praiseworthy.
4. Ibn Sálár, son of Husain, ordered this tomb of heavenly grandeur (to be built).
5. May God Almighty in His kindness and mercy receive him in the eternal mansion !"

The Emperor Jahángir says of them that "the personal courage of the Sayyids of Bárha, but nothing else, was the best proof that they were Sayyids." The derivation, too, of the name 'Bárha' is uncertain. Some say that it is derived from *báhr*, 'outside,' because the Sayyids, disgusted with the debaucheries of the Mina bazar at Delhi, preferred to live 'outside' the city. Others derive the name from the fact of the Sayyids being Shíahs and followers of the twelve (*bárah*) Imáms, or that the name was originally *sálih abrár*, 'the pure Sayyids.' The authors¹ of the *Tabakát-i Akbari* and the *Tuzúk-i Jahángiri* both derive the name from the number of the principal villages (*bárah* = twelve) held by the Sayyids in this district, and this is the most probable derivation. Similar settlements of foreign communities in India are distinguished in the same way; thus we have a '*Puthánon ke bárah basti*,' or 12 villages of Patháns, in pargana Ahár of the Bulandshahr district, and the *chaurásis* (84), *báonis* (52), *chauthsis* (24), and *athárahs* (18) of these provinces are all known by the names of clans that founded them.

Tradition has it that representatives of the four Panjábi clans came about the same time into this district, and that the first settlement in Muzaffar. the same time into this district, and that the first settlement of the Kúndliwál branch was in Majhera; of the Chhatbanúri or Chhatrauri branch was in or near Sambalhera; of the Jagneri or Jhajari branch was in Bidauli and Palri, and of the Tihanpuri branch was in Dhásri and Kumhera. "With the exception of Palri," writes Mr. Cadell, "the earliest Sayyid settlements were made in the sandy tract of the old Sambalhera pargana or in its immediate neighbourhood, and it was not until later that the Sayyids obtained a footing in the richer portions of the district. Even tradition allows that the earlier acquisitions were made through the good will of Hindu owners whom the Sayyids placed, in various ways, under obligations. This tends to show that the fertile portions of the district were then fully occupied, and that the Sayyids came into the district anxious for a settlement within an easy distance of the capital, but not yet holding such high offices at court as would enable them to obtain possession of fertile townships already settled. This view is confirmed by the fact that a family of Gardezi Sayyids, who are allowed to have come to the district before the Bárha Sayyids, settled on the edge of the same wilderness of sand, but nearer the better land and close to old Jál and Rajpút communities." It is possible that, in addition to the fact of the reigning family being Sayyids, the existence of a colony of their co-religionists in this district first caused the Panjábi Sayyids to turn their attention to this portion of the Duáb, and this can only have taken place after they had resided long enough in their original settlements to feel the pressure of increased numbers and consider themselves able to establish new homes amid an alien and probably hostile population.

¹ Blochmann's *Atin-i-Akbari*, I., 390-5.

Throughout the reign of Akbar and his immediate successors the Sayyids of Bárha¹ took part in almost every campaign of importance; their usual place was in the *hardwal* or vanguard, and they distinguished themselves ever by their courage and bravery. The Kúndliwáls first came to notice, and next to them the Tihanpuris, who, under the brothers Sayyid Abdullah Khán and Sayyid Husain Ali Khán, raised the name of Bárha Sayyids to the zenith of its glory. Their story is told under the general history of the introduction and is also noticed hereafter. Their acquisitions, however, in this district were not of a permanent nature, and their downfall was so complete that not a tithe of their ancient possessions now remains to their descendants. The Chhatrauris, too, had their time of distinction. In the struggle between Muhammad Shah and the Tihanpuris, the Chhatrauris sided with the former, and Sayyid Nusrat Yár Khán, Shahámat Khán, Rákn-ud-daula and many others received substantial rewards in return for their services. The further history of the family will better be told by sketching the progress of each branch to the present day. It may, however, be noted here, that the Sayyids have private marks of recognition which "they say," writes Elliot,² "have been very successful in excluding impostors from the tribe. Particular families have denominations, such as dog, ass, sweeper, &c., which are derived from the menial offices which, it is said, some Sayyids of this family performed for the Emperor Humáyún when reduced to extremities during his flight from Sher Shah."

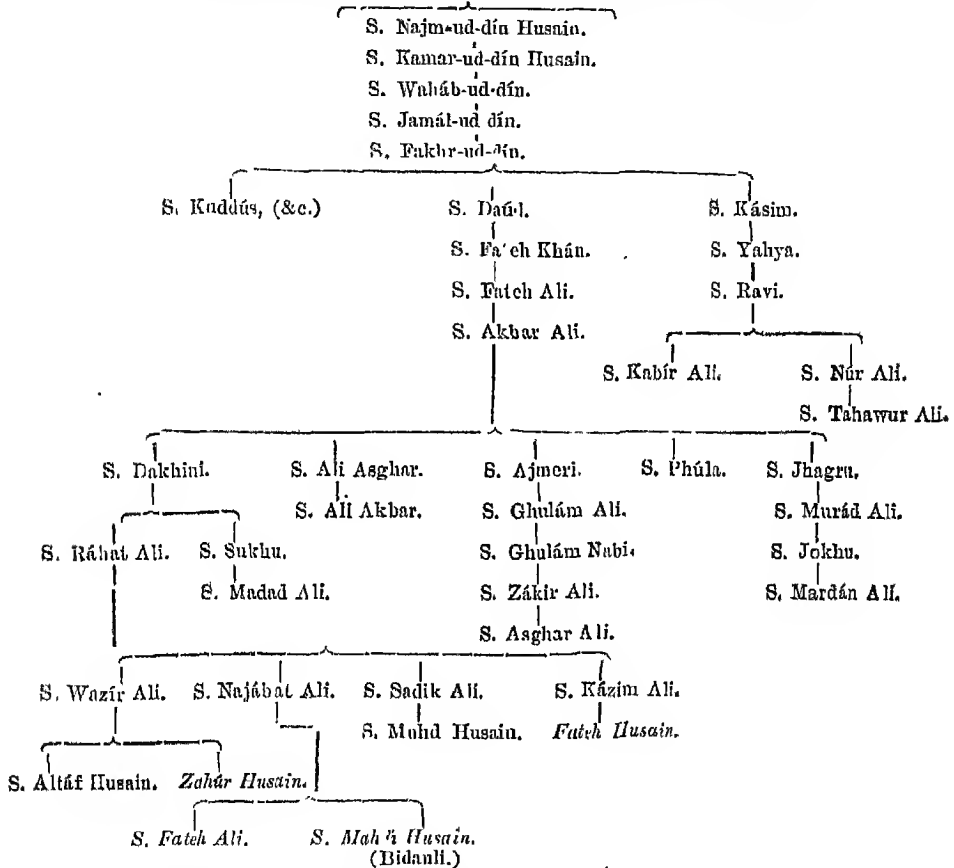
Sayyid Kamar-ud-dín, son of Najm-ud-dín Jagneri, is said to have first settled at Bidauli, in the west of the district. Some generations later, a descendant of his, one Sayyid Fakhr-ud-dín emigrated to Palri in parganah Janli and settled there. He purchased proprietary rights in Palri, Chandauri, Chandaura, Tulsipur and Kheri, which for a long time remained in his family. During the drought which occurred at the last settlement the Jagneris were obliged to dispose of all their property in Jánsath except a tenth share in the village of Palri. Most of the Jánsath Jagneris now earn a subsistence as cultivators, labourers, or servants, and many have emigrated to the Páunpat and Dehli districts. The present head of the Bidauli family, Muhammad Husain, held the office of Názim in Oudh before the annexation, and his nephew, Mahdi Hasán, was a chakladár. The latter saved the lives of some fugitives during the mutiny, and received a pension and an order to leave Oudh and reside in Bidauli. There he has devoted himself to the improvement of his estate, which is not an extensive or fertile one, but with care and supervision can yield an income sufficient to

¹ In the twenty-first year of Akbar's reign the Bárha Sayyids were engaged against the Hindurebels in Ajmer: Dowson's Elliot, VI, 51. In the forty-first year Sayyid Jalál fought in the Dakhin: *Ibid*, 95. In the war with Khusrú, Sarf Klái, son of Sayyid Mahmúd, did excellent service, having received not less than seventeen wounds, and Sayyid Jamál-ud-dín was mortally wounded: *Ibid*, 267, 273.

² Beames' Elliot I, 12. This account is not altogether incorrect, for I find that some such distinctions are common to all the branches of this Sayyid stock.

support the moderate requirements of the dignity of the Bárha Sayyids of the present day. The census of 1872 shows 1,116 Sayyids in parganah Bidauli, and the settlement records of 1863 give them as holding 15,799 acres as proprietors, of which 9,079 acres represent their old holdings, and the remainder has been acquired by purchase by one or two families. The following table¹ gives the descent of this branch from the founder, omitting collateral branches:—

Genealogical tree of the Jagneri branch of the Bárha Sayyids.



Thus the present Sayyid Mahdi Hasan of Bidauli is thirteenth in descent from Sayyid Najm-ud-din Husain, the founder of his house, and allowing thirty years for each generation, this would bring us to the close of the fifteenth century for the emigration from Jagner. Though several members of this branch obtained honourable employment under Akbar and his immediate successors, they have never reached the distinctions for which the members of the other branches are so remarkable. The persons whose names are in italics were alive in 1864.

¹ The genealogical tables of the Bárha Sayyids are too voluminous for insertion here, and I shall only give one or two under each family as an example, and to show the number of generations which has elapsed since their emigration from the Panjáb.

Sayyid Abul Fazáil, Kúndliwál, settled in Majhera, which is said to have been originally known as Munjhera from the quantity of *mímj* grass (*saccharum moonja*) which grew there.

Kúndliwáls.

At the present time the traces of masonry buildings, for some two miles, along the road between Majhera and Miránpur testify to its former greatness. Búlipura, which lies between the two villages, was formerly a muhalla of Majhera. Amongst the descendants of

Sayyid Mahmúd.

Sayyid Abul Fazáil mention is made in the *Aín-i-Akbari* of the brave old soldier Sayyid Mahmúd as the first of the Bárha Sayyids who took service under the Tímúridos. He was with Sikandar Súr in Máukot, but seeing that the cause of the Afgháns was hopeless, he left them and went over to Akbar. In the first year of Akbar's reign he fought in the campaign against the forces of Muhammad Sháh led by the celebrated Hemu. In the second year (1557 A.D.) he was engaged in the Ajmer campaign, and in the following year took part in the capture of fort Jitasáran¹ and an expedition against the turbulent Bhadauriyas of Hatkánth in the Agra district. In 1561 he obtained a *jágír* near Dehli, and towards the end of 1574 took part in the expedition with the Amroha Sayyids against Raja Madhukar of Orchha.² He died in 982 H. (1574 A.D.), and was buried at Majhera, where his tomb exists to the present day with the following inscription in Arabic³:—

"In the name of God, the merciful, the clement. O God, bless the prophet, the faithful, the pure, of the family of Háshim, Muhammad, and his family, and his friends who were instructed in his manners. God is everlasting and praiseworthy in all His doings. The great amir, who is pardoned and rendered pure, and has reached the vicinity of the mercy of God, the favour-bestowing King, Sayyid Mahmúd Khán, a lord of the drum and the flag in his time, died—may God cover him with His pardon—on the night of Thursday, 6th Jumáda II., 982 (or 23rd September, 1574, A.D.)."

Sayyid Mahmúd⁴ was "a man of rustic habits and great personal courage and generosity. Akbar's court admired his valour and chuckled at his boorishness and unadorned language; but he stood in high favour with the emperor. Once on his return from the war with Madhukar of Orchha he gave in the state hall a verbal account of his expedition, in which his 'I' occurred oftener than was deemed proper by the assembled Amírs. 'You have gained the victory,' interrupted Af Khán, in order to give him a gentle hint, 'because His Majesty's good fortune (*ikbál-i-pádisháhi*) accompanied you.' Mistaking the word '*ikbál*' for the name of a courtier, 'Why do you tell an untruth?' replied Mahmúd; '*Ikbal-i-Pádisháhi* did not accompany me. I was there and my brothers; we licked them with our sabres.' The emperor smiled, and bestowed upon him praise and more substantial favours. Once Mahmúd was asked how many generations backwards the Sayyids of Bárha traced their descent. Accidentally a fire was burning on the ground near the spot where Mahmúd stood. Jumping into it, he exclaimed, 'If I am a Sayyid the fire will not hurt me; if I am no Sayyid I shall get

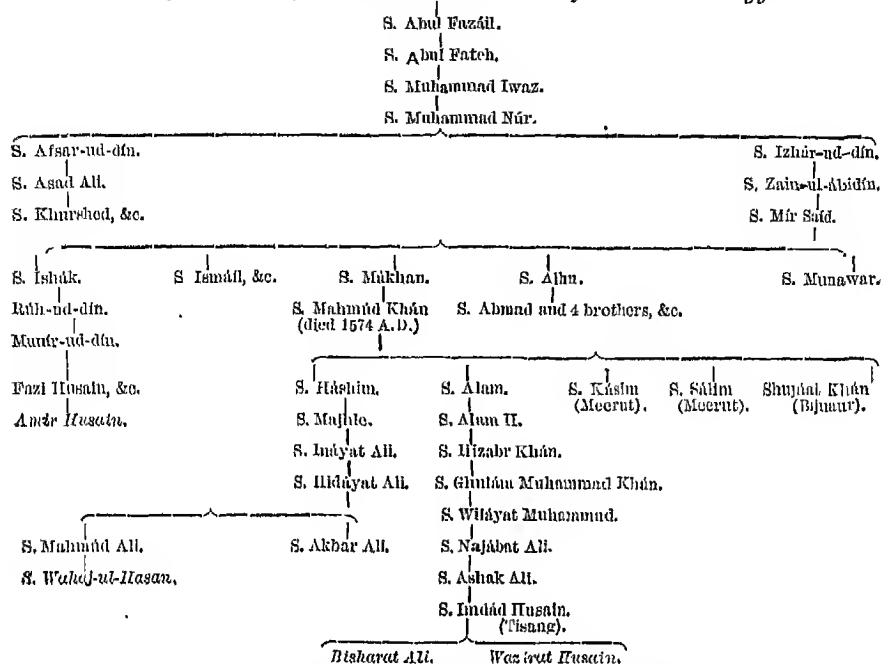
¹ Dowson's Elliot, VI., 22

² Gazetteer, I., 555.

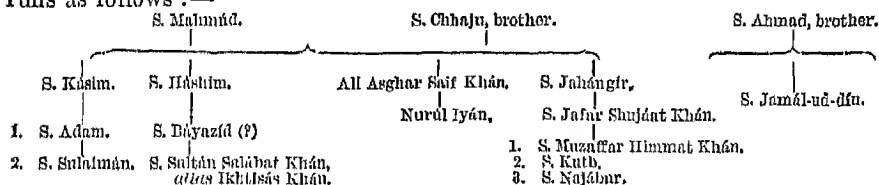
³ J. A. S., Ben., XL., 260 (Blochmann).

⁴ Blochmann's Aín, I., 389, 407, 410, 440, 501.

Genealogical tree of the Kúndliwál branch of the Bárha Samyids.



The persons whose names are in italics were alive in 1864. It will be seen that the table differs somewhat from the list given by Mr. Blochmann, which runs as follows :—



Sayyid Alhu fell at Chunar, where his tomb is. Sayyid Ahmad rose to the rank of a commander of 2,000 under Akbar. He was governor of Patan in Gujrat for some time and died in 982 H. (1574 A.D.). His tomb is hold sacred, and he and his four brothers are known as the "páunch shahíd." The sons of one or more of these and grandsons of Sayyid Alhu were Sayyid Yúsuf and Sayyid Wali Muhammad Khán; from the latter came Kamál-ud-dín Khán, *alias* Jamál-ud-dín Khán I., Saíd Khán, *alias* Jamál-ud-dín Khán II., &c. The first Jamál-ud-dín Khán perished at the siege of Chitor. Sayyid Ismáíl and Sayyid Ishák were sons of a second wifo, known by the fact that Majhera was divided between the two families, and in this way Ismáíl and Ishák got ono-quarter share each, while the other brothers got only one-sixth each. Pattís Ismáíl and Ishák are in this way larger than pattís Munawar and Alhu. Patti Mákhan became a

place of some importance and has been entered as a separate village in the revenue records. The tomb of Sayyid Mahmūd Khān is in Mākhanpur, and the marble tombs of Sayyid Mākhan and his son, Sayyid Saif Khān, who predeceased him, are also in the same village. Walīpura, now known as Bālipura in patti Alhū, was named after Wali Muhammad. Sayyid Kāsim and Sayyid Hāshim served with Sayyid Ahmad in Gujrāt and so distinguished themselves by their bravery that they were rewarded by a grant of a *jāgīr* in Ajmer. They were frequently employed in the van of the army (*harāwal*). Sayyid Hāshim settled at Hāshimpur in pargana Bhūma; he was killed at the battle of Sarkich near Ahmadabad, and Sayyid Kāsim was wounded at the same place. Kāsim, on his recovery, was appointed thānādār of Patan, and enjoyed similar high commands until his death in 1007H. (1598 A.D.). His family settled at Mawāna in the Meerut district, where they held 21 villages. Sayyid Ali Asghar Saif Khān is said by some to be the son of Sayyid Mahmūd, but local authority makes him the brother of Mahmūd, and the same who is mentioned by Jahāngīr in his memoirs as having distinguished himself in the war with Khusru.¹ Sayyid Alam settled in Khorī Sarāi, and his grandson, Hizabr Khān, founded Tisang. Sayyid Sālim settled at Mahmūdpur in the Meerut district, but his family is now decayed. Sayyid Shujāt Khān appears to have been the son of Sayyid Jahāngīr, who was son of Sayyid Mahmūd. Sayyid Jahāngīr attained to high command in Delhi and received a grant of land "*az gang ba Tisang*." He also obtained a grant of lands in Bijnaur and founded Jahānabad, where Shujāt Khān built a famous mosque. His family held the estates until the mutiny, when their possessions were confiscated for rebellion. The existing members are dependent upon their relatives of Tisang. Sayyid Bāyazīd, who served during Akbar's reign in Gujrāt, is mentioned by Mr. Blochmann as probably belonging to this family. In Shāhjahān's reign he was made a commander of 2,000, and had previously received the title of Mustafā Khān. Sayyid Chhaju, who died in 967H. (1559 A.D.) and was buried at Majhera, is also said to have been a brother of Mahmūd, but his name does not appear in the local list. Besides these, several Sayyids are mentioned amongst the grantees of the Mughal court whose families cannot now be traced out, such as Sayyid Lāl, who served in Gujrāt and the Dakhīn,² and others.

The Kūndliwāls are at present distributed amongst the villages of Majhera, Hāshimpur, Tisang, Bālipura and Tāndera. They are
Present state of the Kūndliwāls. for the most part very illiterate, and many of them earn their livelihood by manual labour. Some, however, have obtained high appointments under Government. Thus Sayyid Imdād Husain is a tahsildār and was rewarded with the gift of Jaula in proprietary right on account of services rendered during the mutiny. Sayyid Ghulām Husain of Bālipura is also a well-to-do proprietor. Majhera, however, bears all the appearance of a village decaying

¹ Dowson's Elliot, VI, 273.

² Ain, I, 526.

beyond remedy. Sayyid Alam perished with prince Shuja in Arakan, and Mr. Blochmann notices that of the twenty-two companions of that unfortunate prince ten were Bárha Sayyids. Branches of the Kúndliwál family are established at Maiman in the Meerut district, and across the Ganges in Chandpur and Jahánabád in the Bijnaur district. As a clan, they have almost become extinct since 1760, when the few who did not perish by famine and the Marhatta sword emigrated to Oudh.¹

The first place of residence of the Chhatbanúri or Chhatrauri branch was close to Sambalhera. One of them called Sayyid Hasan Fakhr-uddín lived in the reign of Akbar and must have had some influence at court, for he was able to procure for his friend, the Raja of Sambalhera, the confirmation of that dignity in the male line to the Raja's son Rám Chand. Rám Chand succeeded his father, and on his death without children the Sayyid procured the succession for Rám Chand's widow. She was so pleased with his conduct that she made over as a gift to Sayyid Hasan the whole of her property, and on receiving the sanction of the imperial court the Sayyid took possession of Sambalhera and the adjoining estates. Another branch of the same family is settled at Tisha. Sayyid Husain had four sons: (1) Sayyid Sher Ali, who died without issue; (2) Sayyid Ahmad, killed in the war with Ratan Sen of Olítor, and one of whose descendants settled in Kailawadha, and another, Roshan Ali Khán, served under Muhammad Shah; (3) Sayyid Tájj-uddín, whose son, Sayyid Umar, founded Kakrauli and colonised Rauli Nagla and Bora, where many of his descendants reside to the present day and are of some importance; and (4) Sayyid Sálár Auliya. The last left Sambalhera for Kaithora where, in a manner somewhat similar to that adopted by his grandfather, he obtained possession of the village as the adopted son of the owner, a widow. Sayyid Sálár had two sons: (a) Sayyid Haidar Khán, whose descendant, Sayyid Kásim Shahámát Khán, settled in Miránpur and founded the Haidar Kháni family; and (b) Sayyid Muhammad Khán, whose descendants remained at Kaithora and form the Muhammad Kháni family. Members of the Haidar Kháni family are still found in the villages of Miránpur, Gadla and Bhúpa, and some of them are in the service of Government in positions of trust. Of those that remained at Kaithora, Sayyid Nusrat Yúr Khán and Rukn-ud-daula attained to high rank during the reign of Muhammad Shah as governors of Gujráť, Agra, and Patna. They held twenty-eight villages in *jágír* in Ahmadabad, which remained in possession of the family until 1850. These grants were made in return for their services against their brethren of the Tihanpuri branch, which resulted in almost the annihilation of the latter. The descendants of Sayyid Shahámát Khán are the

¹ The tomb of Mirán Sayyid Husain at Majhera bears the following inscription:—

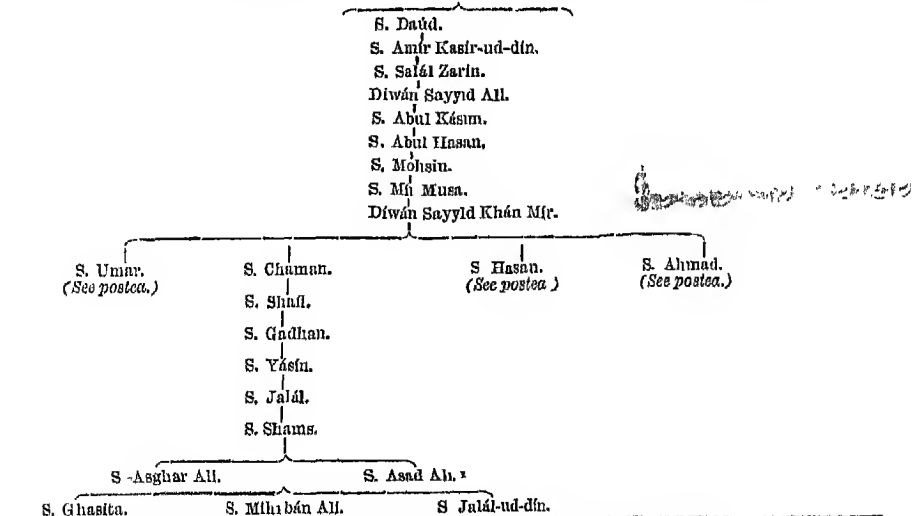
"1. O Lord, forgive our sins, for we are sinners and Thou art forgiving.

2. Thou art good, but we are wicked and have committed endless crimes. The date of the death of Mirán Sayyid Husain, the Good, who has obtained pardon and forgiveness, is the 5th Jumáda II, 1002" (9th March 1592).—Blochmann in Proc. As. Soc., Ben., July, 1878, p. 142.

It is possible that the Sayyid Rájū who fell¹ at the siege of Ahmadnagar in 1003 H. (1594 A.D.) is the grandson of Sayyid Táj-ud-dín mentioned above.

It is the Tihanpuri branch, however, that has raised the name of the Bárha Sayyids to the highest pitch of eminence. Sayyid Khán Mír,² eighth in descent from Sayyid Dáúd, left Tihanpur and settled at Dhásri in parganah Jauli of this district. He had four sons, the eldest of whom was Umar Shahíd, who settled in Jánsath; the second was Sayyid Chaman, who settled in Ohhataura or Chitaura; the third was Sayyid Hasan, who settled in Bihári; and the fourth was S. Ahmad, who settled in Kawal, a village in parganah Jánsath. I shall now briefly describe these four branches of the great Tihanpuri stock. Sayyid Chaman's village now lies on the left bank of the Ganges canal in parganah Jánsath. To his family belongs Sayyid Jalál, who took possession of Kharwa Jalálpur in parganah Sardhana of the Meerut district, in the reign of Sháhjahán, and is said to have acquired proprietary rights in a *chaubisi* (24) of villages there. The village of Ohhataura was enlarged by Sayyid Muhammad Saláh Khán, but Sayyid Shams, the son of Sayyid Jalál, leaving the imperial service, the family declined. Sayyid Shams had two sons, Sayyid Asghar Ali and Sayyid Asad Ali, the former of whom died without issue, and the descendants of the latter reside in Ohhataura and Jalálpur. They are all in very reduced circumstances, and the Ohhataura family were obliged, in 1843-44, to sell the bricks of the ruined houses in their village for Rs. 10,000 to Colonel Cautley to build the works on the Ganges canal. They hold only the village of Ohhataura, at the present time, in this district, and have not extended their possessions in the Meerut district.

Genealogical tree of the Tihanpuri branch of the Bárha Sayyids.



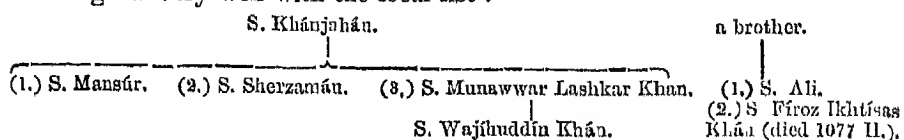
¹ Various spelled Khwán Mír, Khwán Kír, Khwán Mír, Khán Kír, Khán Mír.

² Ain, I., 452.

This tree is not carried any further as the members of the family have so declined in importance.

Sayyid Hasan,¹ the third son of Sayyid Khán Mír, emigrated to Bihári, near Sikkhara or Sikkhri, in the south-east of parganah Muzaffarnagar. He had six sons : Sayyid Mán and Sayyid Khán, who died without issue ; Sayyid Kutb, Sayyid Yúsuf, Sayyid Sultán, and Sayyid Nasír-ud-dín. The descendants of Sayyid Kutb, the eldest son, still reside in Biláspur and Muzaffarnagar, and the remains of extensive masonry buildings around their present residence show that this family also attained to wealth and distinction in the imperial service. The Sayyids of Ratheri are descendants of this branch, but the greater number are now either small proprietors, cultivators, or in service. The descendants of Sayyid Yúsuf, the third son of Sayyid Hasan, are found in Bihári and Wahalna. The descendants of Sayyid Sultán, the second son, are very numerous ; many of them are in service and many are petty proprietors, cultivators, and holders of grants of land free of revenue. This subdivision of the family still own Sandhauli, opposite Wahalna, on the Khátauli road in parganah Muzaffarnagar.

To the descendants of Sayyid Nasír-ud-dín, the sixth son of Sayyid Hansa, belongs the celebrated Sayyid Khánjahán-i-Sháhjaháni who attained to such power under the Emperor Sháhjahán. He received in *jáytr*, from his master, forty villages in parganahs Khátauli and Sarwat, and free of revenue in perpetuity ten thousand bighas of land with the title of Abul Muzaffar Khán. Sarwat was nominally the chief town of his new possessions, but was at that time almost deserted. Sayyid Khánjahán commenced a new town on lands taken from Sujru and Khora, which was completed by his son, who named it Muzaffarnagar in honour of his father. Sayyid Abul Mansúr's name is still preserved in the name of the village of Mansúrpur, and the descendants of Sherzamán Khán, *alias* Muzaffar Khán, his brother, are still to be found in the Abupura muhalla of Muzaffarnagar. Mr. Blochmann gives the following tree of Sayyid Khán Jahán's descendants which agrees very well with the local list :—

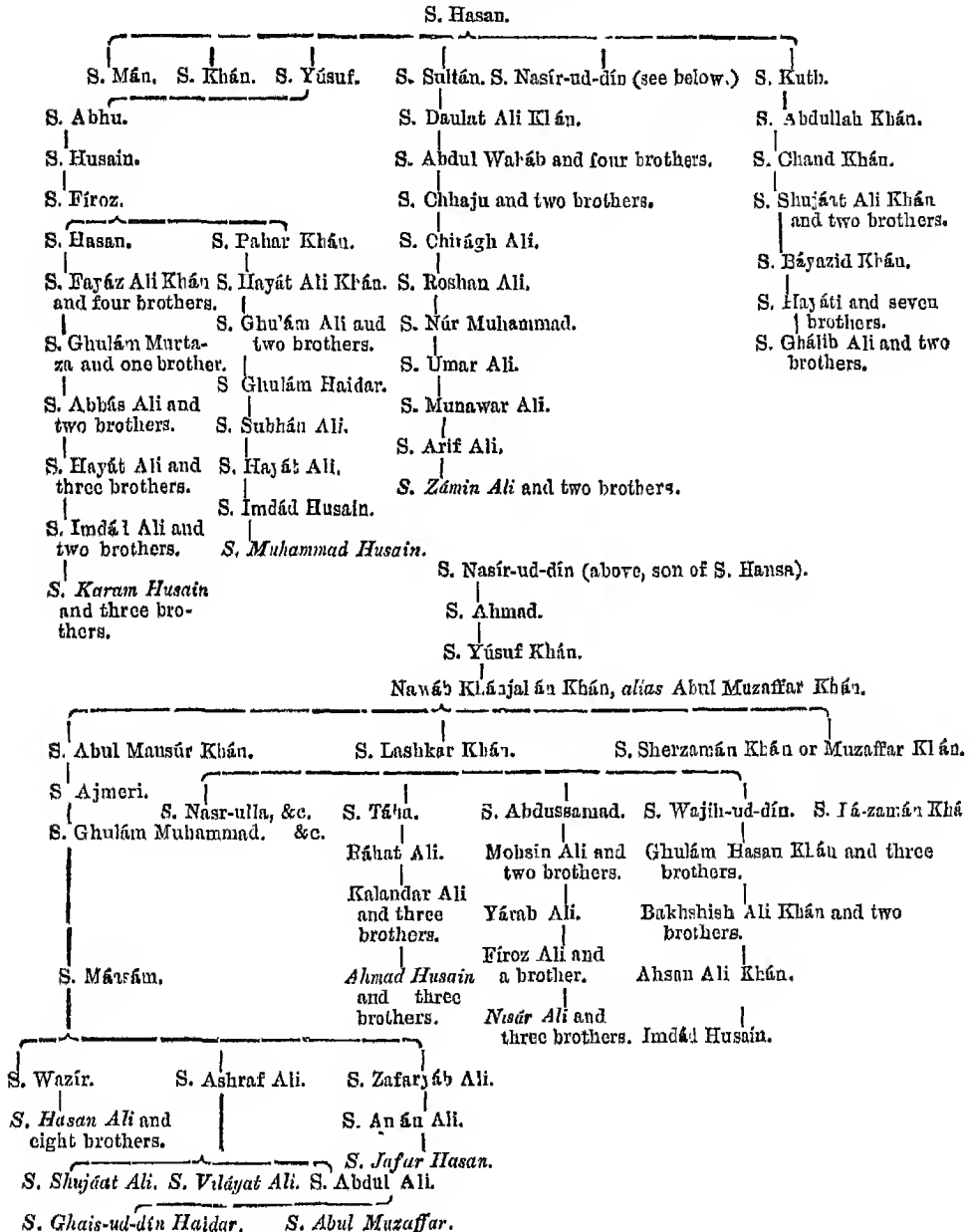


Sayyid Khánjahán died in 1055 H. (1645 A.D.) Most of the revenue-free lands still remain in the possession of his descendants. At Mr. Thornton's settlement in 1841 the Muzaffarnagar parganah contained sixty-four villages, most of which belonged to Sayyids. The Sayyids have lost in this parganah alone between 1841 and 1861 upward of 13,373 acres. As a rule, they have

¹ In some lists written 'Hansa.'

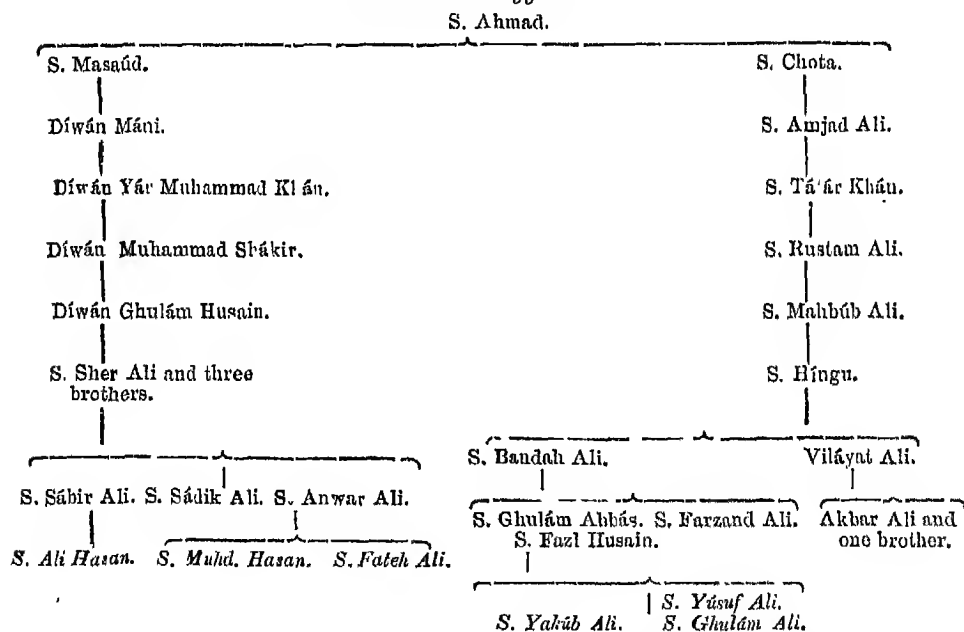
been extremely improvident, and were obliged to borrow money from the usurers at a high rate of interest; the time of reckoning came upon them unexpectedly, and unable to pay, their estates were sold by auction in satisfaction of decrees of the civil court.

Genealogical tree of the family of Sayyid Hasan of the Tihanpuri branch of the Bārha Sayyids.



Sayyid Ahmad, the fourth son of Sayyid Khán Mír, settled in Kawal, where his descendants still reside and are persons of some importance. Tátár Khán and Diwán Yár Muhammad Khán of this family distinguished themselves in the service of Aurangzeb. There are many Sayyids mentioned¹ by Mr. Blochmann in his notes to the *Ain-i-Akbari*, whose names agree with those in the local lists, but without the details, which are not given, it is impossible to identify them. Altogether the descendants of Sayyid Hasan have not fared well. The chief Mansúrpur branch, involved even before 1841, has gone steadily to ruin. The Ghálibpur and Kailawadha Sayyids have, also, succumbed more or less to the money-lenders. Those of Khánjahanpur, however, have preserved five villages, and those of Saráí retain half their ancestral property.

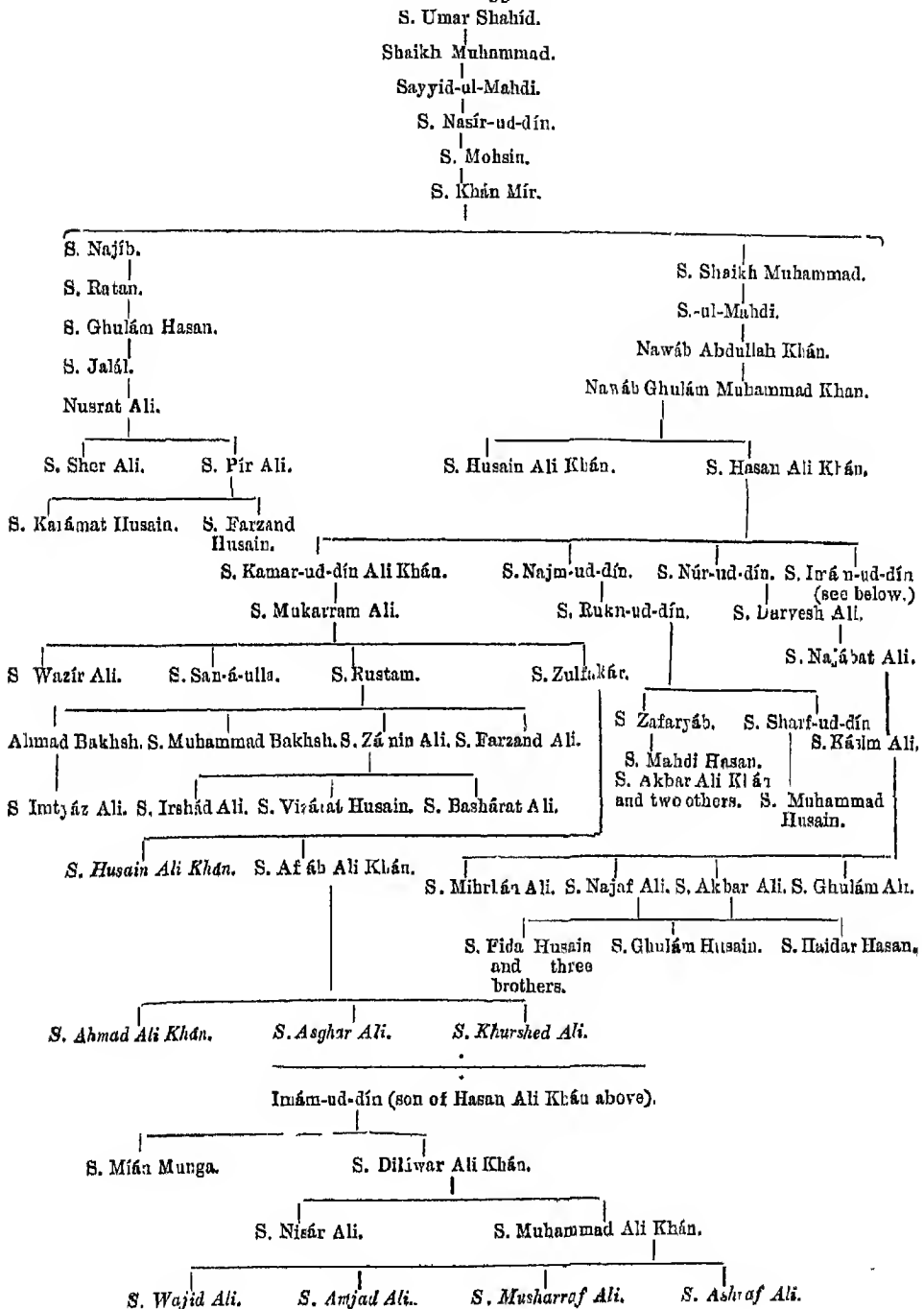
Genealogical tree of the family of Sayyid Ahmad of the Tihanpuri Branch of the Bárha Sayyids.



We next come to the descendants of Sayyid Umar, the eldest son of Sayyid Khán Mír. Sayyid Umar settled in Jánsath, a village then inhabited by Játs and Brahmans. His descendants acquired proprietary rights in the village, and during the ascendancy of the family in the reign of Farrukhsiyar, so extended their possessions that they were detached from Jauli and formed into a separate tappa known as Jánsath from the principal town. I shall first give the genealogical tree before preceeding to the history of this family.

¹Ain, I, 392, and J. A. S., Ben., XI., 261.

Genealogical tree of the family of Sayyid Umar of the Tihanpuri branch of the Bārha Sayyids.



From this family came the celebrated Nawáb Abdullah Khán, so well known in Ajmer under the name of Sayyid Mián. Mr. Blochmann differs from the local lists and gives five sons to Sayyid Abdullah Khán: (1) Sayyid Hasan Ali Khán, known by his title as Kutb-ul-mulk, Sayyid Abdullah Khán; (2) Sayyid Saif-ud-dín Husain Ali Khán, not mentioned in the list; (3) Sayyid Husain Ali, Khán known by his title as Amír-ul-mamálik; (4) Sayyid Najm-ud-dín Ali Khán, the son of Hasan Ali Khán according to the list; and (5) Núr-ud-dín Ali Khán, also the son of Hasan Ali Khán according to the list. Towards the close of Aurangzeb's reign the Lihanpuri branch of the Bárha Sayyids attained to considerable influence and were entrusted with important commands. Sayyid Hasan Ali and Sayyid Husain Ali were in the employment of Azím-ush-shán, son of Muizz-ud-dín, who was afterwards known as the Emperor Bahádur Sháh,¹ and for their gallantry at the battle of Agra, in 1707 A.D., which gave the throne to the father of their patron, the former received the government of Allahabad and the latter that of Patna.

In 1709 A.D. we find Sayyid Ahmad, Sayyid Khán, Sayyid Husain Khán, and Sayyid Ghairat Khán, all from Bárha, fighting boldly for the emperor against the Hindu princes on the Narbada who had taken the opportunity to revolt. The Sayyids, true to the reputation of their family, fought in the van of the army and perished to a man with all their followers. During the next few years the Bárha Sayyids distinguished themselves in the Panjáb, along the Indus and in Gujrát, until the time came when by their aid the Jásath family became masters of Hindustán. The year 1712 found the Sayyid governors distrustful of the power of their enemies at the Delhi court, and they at length resolved to raise prince Farrukhsiyar to the throne. In this design they were successful, and, as his ministers, enjoyed the highest dignities that the emperor could confer. They did not, however, attain their object without much hard fighting, and in the battles of Allahabad and Agra, which then took place, many of their relatives and clansmen lost their lives. Najm-ud-dín Ali Khán, Núr-ud-dín Ali Khán, and Saif-ud-dín Ali Khán greatly distinguished themselves, and Núr-ud-dín lost his life at Allahabad. Sayyid Hasan Ali Khán, henceforward known as Sayyid Abdullah, was appointed vazír of the empire with the title of Kutb-ul-mulk, and Sayyid Husain Ali became commander-in-chief with the title of Amír-ul-mamálik. Their subsequent career belongs to general history and has been sufficiently noticed in the introduction to the history of the Meerut division. Sayyid Husain Ali Khán was assassinated in 1721 A.D., and his brother Sayyid Abdullah was poisoned three years afterwards. Many of the Sayyids of note fell with Sayyid Husain Ali in 1721, and still more perished in the unfortunate battle of Husainpur when Sayyid Abdullah was taken prisoner. Still some survived, and amongst those mentioned as holding high commands at

¹ Siyar-ul-mutakhkharín, 22, 52, 63, 65, 403.

this time I find the names of Sayyid Asad-ullah, Sayyid Ján-nisár Khán, Sayyid Ikhlás Khan, Sayyid Asad Ali Khán the lame, Sayyid Diláwar Khán, and Sayyid Fíroz Ali Khán. The estates of both brothers were conferred on one Muhammad Amín Khán, who lost no time in enforcing his authority in this district. At the same time Kamar-ud-dín Khán succeeded to the dignities formerly held by the Sayyids, and over remained the bitter, active and unscrupulous enemy of their race.

On the death of Sayyid Abdullah in 1724 A.D., Sayyid Najm-ud-dín Ali Khán, his youngest surviving brother, obtained for some time Intrigues of Kamar uddín Khán. honourable employment under Sarbaland Khán, governor of Gujrát, and subsequently shared in the unmerited misfortunes which befell his patron. At the same time other members of the family continued to serve with distinction in various parts of the empire. Kamar-ud-dín became alarmed at their reputation, and seeing that "the snake was scotched and not killed," resolved to take such measures, on the first opportunity that presented itself, that the very name of Bárha Sayyid should be completely obliterated from the records of the state. In this resolve he seems to have been actuated as much by religious feelings as by hereditary hatred; he was a Sunni, whilst the great mass of the Sayyids were Shíahs. The vazír, for a long time, confined himself to denying them all employments near the emperor's person until, at last in 1737, finding his efforts not so successful as he had supposed, he carried his long-cherished plan into execution. Sayyid Saif-ud-dín Ali Khán, ever since the death of Sayyid Abdullah, had resided, in retirement, on the family estates at Jánusath, and the vazír determined to provoke him to some apparently overt act of rebellion so as to give some colour to the action that he intended to take. For this purpose one Marhamat Khán was despatched to the Saháranpur district with orders to resume the *jágír* of Sayyid Saif-ud-dín and those of every other member of the family of the late Sayyid leaders and their dependents. Marhamat Khán was a man of coarse and brutal manners and undertook the office of jackal with alacrity. In carrying out his orders with an organised 'crowbar brigade' he acted with such unnecessary violence and cruelty that the Sayyids rose *en masse* and put him and his followers to death. Kamar-ud-dín, delighted at the intolligence, and thinking it a good excuse for destroying his enemies, root and branch, assembled a large force of Turánis, a body of Afgháns under Ali Muhammad, Rohilla, besides contingents from the governors of Katehir, Sháhjahánpur, and Shahabad, and a large body of Chhatrauri Sayyids, all of whom he placed under the command of his own brother Azím-ullah Khán, a name then, as in 1857, associated with deeds of cruel murder and rapine.

The vazír's force marched on Jánusath, the head-quarters of the Tibanpuri Sayyids, and defeated Sayyid Saif-ud-dín at Bhainsi on the Khátauli road. The town was then surrounded

Sack of Jánusath,

and taken by assault, and for three whole days nought but rapine accompanied with murder and rape prevailed. The Rohilla leader distinguished himself in the battle by killing Sayyid Saif-ud-din with his own hand, and received substantial favours in reward besides permission to use the great drum with his forces. The resumption orders were now carried out with the greatest vigour, and many of the Sayyids emigrated to Lucknow, Baroilly, Aonla, and Nagina. A branch of the Jansath Sayyids is said to exist in Purniah in Bengal, and the descendants of the celebrated *pir*, Sayyid Abdullah Kirmáni of Birbhúm claim relationship with the Sayyids of this district. For some time the Chhatrauris reaped the reward of their desertion, but with the building of the fort of Shukartár, near their principal town of Morna, troubles came upon them also. The Patháns, too, in every way sought to undermine the influence of the remnant of the Sayyid aristocracy, and with the aid of the Gújar chiefs of Bahsúma on the south and Landhaura on the north effectually prevented any coalition of the Sayyids amongst themselves. These chiefs, and even the Ját and Rajpút communities, made common cause against the old state grantees. Púr Chhapár on the north and Bhukarheri on the east fell into the hands of the Landhaura chief, whilst Bhúma, Khátauli, and Jansath were occupied by the Bahsúma chief, and where the Gújars did not claim any supremacy, the village communities themselves declared their independence or became vassals of the Pathán chief. To the south-west a Rajpút leader received a cluster of villages from Zábíta Khán, and many of these had formerly belonged to the Sayyids.

The ancestor of the Nawáb of Karnál received three parganas in *jágír*, including Muzaffarnagar and the estates formerly held by the descendants of Sayyid Khánjahán, and no matter who lost or won, the Sayyids seem to have always been on the losing side. What limited rights they preserved were held by them as the vassals of whatever power might, for the time being, be strongest, whether Imperial, Afghán, Marhatta, or eventually the British. There was little change amongst the village communities, who all through retained their old position intact, and in those cases, too, where the Sayyid settlements had approached the status of a village brotherhood their possession was acknowledged. The famine of 1783 A.D. was severely felt in this district, and for the next twenty years, in common with the other districts of the Upper Duáb, Muzaffarnagar became the prey of marauding bodies of Sikhs and Rohillas. This state of things continued for the first two years of British rule when troops could ill be spared even for the protection of the district and the security of the revenue. Mr. Guthrie, the collector, was often obliged to take refuge in the small mud fort of Fazlgarh "with no other force than a few *najibs*," and it was not until the beginning of 1805 that Colonel Burn was able to clear the district of marauders (see SHÁMLI).

Leaving the Sayyid history at the conquest, I must briefly review the Sikh raids into the district, as they exercised no inconsiderable influence on its fortunes. The first great invasion took place under the ferocious Bandu in 1710 A.D., when Jalál-ud-dín of Jalál-abad was *faujddár* of the Saháranpur circle. The Sikh hordes after plundering and burning the towns of Bahat, Saháranpur, Ambahta and Nánauta in the Saháranpur district, penetrated southwards as far as the northern parganahs of Muzaffarnagar. The *faujddár* and his two nephews perished in a vain attempt to oppose the marauders. The latter had in the Gújars important allies, who gladly embraced the opportunity now afforded them to resist and throw off the yoke imposed by their Musalmán rulers. Community of hatred and in some sense of religion made them ready to aid the Sikhs to supplant the existing power, but, perhaps, in rendering this assistance they were as much guided by their hereditary and instinctive love of plunder and a desire to save their own villages as by any other motive. They have always been found on the side of disorder, and until they become weaned from the roving, semi-nomad life that they have been accustomed to lead for generations, they will always rise to the surface when the reins of administration have been slackened and they think that plunder and murder can be indulged in with impunity. But as long as the Gújar knows that the Government is strong and willing to protect its subjects, so long will he remain satisfied with his hereditary occupation of cattle-stealing and cattle-grazing. Should evil days ever unfortunately arise, the Gújar tracts will, as they have always done, prove a very thorn in the side of the district officer and demand all his care and attention to manage them.

The death of Bandu and the dispersion of his followers freed the district for over half a century from the incursions of the Sikhs, but after the battle of Pánipat they again commenced their plundering expeditions. In 1763 A.D. an immense force crossed the Jumna, and after sacking Saháranpur, attacked and plundered the Sayyid town of Miránpur in parganah Bhukarheri. In the following year the same town suffered severely at the hands of the "Budha dal," the name by which the newly organised forces of the Sikhs was known. From the Siwálíks on the north almost to Meerut on the south, and even across the Ganges to Bijnaur on the east, the entire country fell a prey to the army of the Sikh theocracy and its Gújar allies, and village after village was plundered and burned, the inhabitants were slaughtered, the crops were destroyed, and the cattle were carried off. Although the Rohillas under Háfiz Rahmat Khán attempted some reprisals, their efforts were fruitless, and Najib-ud-daula, the natural guardian of the district, was absent at Dehli, so that the Sikhs, satiated with plunder, were able to retire leisurely to their own country. For three years there was some appearance of rest, but in May, 1767 A.D.,

the Sikhs again came, increased in numbers, improved in organisation, and more confident from success. Sweeping down by unfortunate Nánauta, they harried the whole of the Bárha settlements. Meerut itself was attacked, and were it not for a timely diversion of a few Afghán detachments, could scarcely have held out. The Sikhs retreated north-wards and were pursued, and in a battle fought between Kurína and Shánli in this district the imperial troops were victorious; but hardly had the latter reached Dohli when the Sikhs were again over the border. Nánauta was again burned, and all the way down to Kándhla nothing was seen but smoking heaps of ashes where prosperous villages once stood. Najib Khán, now relieved from the presence of his enemies at Dohli, took the field and succeeded in clearing the district of marauders, and eventually drove them back by Nánauta and Islámnagar to the gháts on the Jumna.

But this was his last success; for henceforth, writes¹ Mr. Williams, “as regularly as the crops were cut, the border chieftains crossed over and levied black-mail from almost every village in the most systematic manner. Their requisitions were termed ‘*ráki*,’ and sometimes euphemistically ‘*kambli*’ or ‘blanket-money.’ Each of them had a certain well-known boat or circle so well recognised and so clearly defined that it is not unusual for the peasantry, at the present day, to speak of some places being, for instance, in Jodh Singh’s *patti*, others in Diwán Singh’s, or Himmát Singh’s, and so on. The collections, of course, varied with the ability of the people to pay, averaging from Rs. 2 to Rs. 5 a head. Two or three horsemen generally sufficed to collect them, for two or three thousand more were never very far off. In case of delay about paying up, a handful of troopers, each well mounted and armed with a spear, sword and a good match-lock, speedily appeared to accelerate the liquidation of the debt. The Sikh’s endurance and rapidity of movement were quite commensurate with his rapacity, enabling him to baffle, if not delay, superior numbers. With the exception of beef he had, it is true, no objection to a generous diet of fish, flesh or fowl, and he thoroughly enjoyed his liquor; but, at a pinch, he could march some twenty or thirty miles a day on no better fare than a little paroled gram washed down with pure cold water. A tent he despised; baggage, in the ordinary sense of the word, he had none, looking to others to provide him with that as well as most other luxuries. Besides his weapons, his whole kit consisted of horse-gear, a few of the very simplest cooking utensils and two blankets, one for himself and one for his faithful steed. These last important items of the Sikh warrior’s equipment clearly point to the origin of the term ‘*kambli*,’ for the tax levied on each villager or townsman was, on an average, equal to about the price of a blanket. In spite of the simplicity of his habits, he took a pardonable pride in the adornment of his person and the proper

¹Cal. Rev., LX., 28.

maintenance of his accoutrements. Like the ancient Spartan, he never failed to carefully comb out and adjust his long hair and beard before the battle, and his white vest contrasting with his scarlet trappings made a fair show as he rode along gallantly to the fight. Although his tactics mainly resolved themselves into a prolonged series of skirmishes conducted after the Parthian fashion, yet in the strife of men contending hand-to-hand he was terrible, though helpless against good artillery. The '*dal*,' fortunately, possessed very few guns and hardly understood the use of them. This deficiency saved the country from complete subjection, a contingency which seemed imminent a few years later."

The people were helpless, and, left to themselves, began the construction of those mud forts which are so characteristic of the state of insecurity of, indeed, nearly the whole Duáb during the latter half of the last century. In 1774 and 1775 formidable invasions again occurred, and in the latter year, Zábita Khán was obliged to purchase the safety of his fortress of Ghausgarh by paying a fine of Rs. 50,000. Departing thence, the Sikhs ravaged the Sayyid country and plundered Miránpur and Kaithora, where the Sayyids, Sháhámát Khán and Fatehullah Khán, made some slight resistance. The Sikhs then passed through Shámli, Kairána, Kándhla and Meerut, and then again turned westwards. Dispirited by the success of his enemies at court, and despairing of being able to take the field against the Sikh invaders unaided, Zábita Khán turned his attention towards forming an alliance with them against their common enemy, the court faction at Dehli. Uniting their forces, the Sikh and the Rohilla leader marched down the Duáb and were met by the imperial forces near Budhána; retreating thence to Baghra and again to Amírnagar, the allied forces suddenly turned round and attacked the imperialists, who were routed with great slaughter in March 1776 A.D. K'sim Ali Khán, the brother of Majad-ud-daula, dīwán of the empire, fell in this battle, and the disorganization of the Dehli army was completed: Meerut, Hápúr, Sikandra and Khúrja were taken, and even Koil, Atrauli and Kásganj were visited by the invaders. Franklin says that Zábita Khán was so pleased with his new allies that he renounced Islám and became a follower of Nának, under the name¹ "Dharam Singh," and Mr. Williams attributes to this circumstance the proverb still current in the district:—

"Ek guru ke do chela, ádha Sikh ádha Ruhela."

Najaf Khán was summoned from the Ját country, and after a bloody battle² was fought between Amírnagar and Ghausgarh, succeeded in driving the Sikhs and Rohillas across the Jumna. After a time, he induced Zábita Khán to come to an understanding with the emperor, and caused him to be restored to

Najaf Khán opposes the Sikh-Rohilla confederacy.

¹ Cunningham, 117.

all his previous dignities. But in doing so both parties forgot to consult the Sikhs, who henceforth regarded their former ally as a renegade, and made his possessions again the scene of the same rapine and destruction that had marked their earlier irruptions. From 1778 to 1781 every year saw the plundering hordes across the Jumna, and in August of the latter year Meerut was again besieged. Fortunately Mirza Muhammad Shâfi was able to oppose them here with a considerable force, and having succeeded in defeating the whole Sikh army with great slaughter, and in driving them out of the Duâb, carried the war into their own country.¹

During the terrible famine year of the *chaltâ* (1840 S., 1783 A.D.,) the Sikhs under Baghel Singh, Krora Singhia, occupied the upper Duâb as far as the Ganges, and even swept round by Hardwâr through the Dehra Dûn. These incursions alarmed even the English in Calcutta, and in 1784 Major Brown was sent on a deputation to Shâh Alam by the Supremo Council. His mission is thus described by Franklin² :—
 “The real cause of Major Brown’s arrival, was in consequence of orders he had received from his Government, not to decline any overture that might be made for affording a military aid to the royal cause. The Sikhs had for several years back, by their predatory incursions into the Duâb and Rohilkhand, excited alarm in the government of Asaf-ud-daula, and Mr. Hastings, the British Governor, with his usual discernment, deemed the exertions of the court at Dehli might, at the present juncture of affairs, prove a beneficial counterpoise to the rising power of the Sikhs.” The flight of Mirza Jawân Bakht to Lucknow prevented any overtures being made, and the Sikhs were again left to themselves. In the following year Jassa Singh Ramgarhia and other chiefs, including Râi Singh Bhangî, and his nephew Shor Singh, Jodh Singh of Chachrauli and Sâhib Singh of Ladwa, marched straight through the Duâb, sacking Mîrânpur on their way, and finally crossing the Ganges, plundered Rohilkhand as far as Chandausi in the Moradabad district. Cunningham³ writes :—“At this period Zâbita Khân was almost confined to the walls of his fort of Ghausgarh, and the hill Raja of Garhwâl, whose ancestor had received Dâra as a refugee in defiance of Aurangzeb, had been rendered tributary, equally with all his brother Rajpûts, in the lower hills westward to the Chinâb. The Sikhs were predominant from the frontiers of Oudh to the Indus, and the traveller Forster amusingly describes the alarm caused to a little chief and his people by the appearance of two Sikh horsemen under the walls of their fort, and the assiduous services and respectful attention which the like number of troopers met with from the local authorities of Garhwâl and from the assembled wayfarers at a place of public reception.” In 1788 A.D. the year of his deposition and death, Ghulâm Kâdir defeated a force of Sikhs who, after sacking Ambalita, were marching southwards through Muzaffarnagar.

¹ Shah-Aulum, 94.² *Ibid*, 115.³ Cunningham’s Sikhs, 117

After the capture of Meerut and the execution of Ghulám Kádir in 1788, the Marhattas marched northwards through the Duáb and annexed the northern districts, of which Ghani Bahádur of Banda¹ became the first governor. Temporising with the Sikhs, he allowed many of their leaders to hold portions of this and the Saháranpur district partly as farmers and partly in lieu of the uncertain dues that they were accustomed to levy.² Thus in 1790 A.D., Rái Singh of Jagádri and Sher Singh of Barhiya took possession of portions of the *mukarari* of the Gújar Raja of Landhaura, comprising parganahs Manglaur, Jaurási and Jawálapur in the Saháranpur district, but were obliged to give them up in the following year by the new governor, Bhairon Pant Tántiya. Both still held, for some time, portions of the Sultánpur parganah, whilst Rái Singh occupied Nakúr. In this district Gurdatt Singh of Ladwa obtained parganahs Jhanjhána, Kándhla and Shámli and held them with Karnál for twelve years. Bhanga Singh, also, acquired Bidauli and Kairána, and all agreed to protect the Duáb from the attacks of the other Sikh chiefs. But, relieved of their great enemies, the Sikh confederation fell to pieces, and chief began to attack chief and aggrandise himself at the expenso of his co-religionists. Nakúr itself, though held by Rái Singh, was attacked by Diwán Singh and plundered. The former appealed to the Marhattas, who had already begun to levy tribute from Patíála and other states in Sarhind, when the death of Sindhia himself put an end to any aggressive attempts on the part of his followers.

On the death of Madhoji Sindhia in 1794 A.D., the Sikhs across the Jumna, already jealous of their brethren who received grants in the Duáb, were ready for further raids. Daulat Ráo Sindhia with eight battalions of disciplined troops was at Poona, De Boigne was at Aligarh, the Begam Sumru was at Sardhana, and Appa Khandi Rao with George Thomas³ was in Mewat. Profiting by the disorders of the time, the Sikhs again invaded the Duáb in 1795 A.D., and succeeded in driving the Marhatta garrison from Saháranpur. The fugitives took shelter in the fort of Jalálabad and would not have escaped their enemies had not George Thomas appeared with a portion of his Mewat force and relieved them. Thomas was then appointed 'warden of the marches' by Lakhwa Dáda, who had succeeded to the Marhatta command in Saháranpur, and was given charge of 2,000 infantry, 200 cavalry and sixteen pieces of artillery raised for the protection of the Jumna frontier, and was assigned the parganahs of Pánipat, Sonpat, and Karnál for their pay. Thomas, however, found his task no easy one. Although Bápu Sindhia exerted himself during 1796 to restore some appearance of order, the Sikh *jágláddárs* were found to be intriguing with their brethren in the Panjáb. The Sikh commandant of Shámli, then in Gurdatt Singh's *jáglá*, was detected in a

¹ Gazetteer, I., 32.² Mr. G. Williams in Cal. Rev., LXI., 42.³ See Gazetteer, II., 25

treasonable correspondence; his fort was attacked by Thomas, was taken, and the entire garrison fell by the sword. Thomas then hastened northwards to assist Bāpu Sindhia, who was engaged in investing the Tárkmán fort of Lukhnauti, then held by Bahrmand Ali Khán, and here also, he and his forces distinguished themselves and contributed, in no small measure, to the ultimate success of the Marhata troops. Crossing the Jumna, Thomas defeated the Sikh confederates in four successive actions near Karnál, but finding Perron, who had succeeded De Beigne, inimical to his success, Thomas left the Duáb for Mewat, still, however, continuing his operations against the Sikhs. He repaired the walls of Hánsi, cast guns, erected manufactories for small-arms and powder, and enrolled large numbers of horse and foot, with which he levied contributions on the neighbouring Sikh States. We next hear of the Sikhs as allies¹ of Sambunáth, the Baniya agent of Imám Bakhsh, governor of Saháranpur. They

1799-1800 A.D.

joined him in his revolt against Perron and were present at the battle of Khátauli, early in 1800, in which Sambunáth's six battalions were defeated by three of Perron's battalions with the loss of six guns. About the same time Thomas attacked Jhínd, belonging to Bhág Singh of the Phulkia confederacy. The town was relieved by the old chief,² Baghel Singh Krora Singhia and the sister of the Patiála Raja, but they failed to injure Thomas in his retreat to Hánsi. Early in 1800 Thomas took Fatehabad and reduced the Bhattis of Haráúna to submission, while the Patháns of Malor Kotla and the converted Musalmáns of Rúikot, also, acknowledged him as master. In all quarters he spread his influence and compelled submission to his authority and made those whose own will had, hitherto, been their sole law, obey his slightest command. The Sikhs were not more successful in the Duáb, they and their employer Sambunáth were again defeated in August, 1800, with the loss of all their baggage and twenty-four pieces of cannon. Following up his success Perron resumed nearly all the Sikh *jáglrs* with the exception of Jhanjhána, which was still held by Gurdal Singh, and yielded a revenue of Rs. 36,554, and other lands held by Bhág Singh and valued at Rs. 57,968. Kándhla was transferred from the Ladwa chief to Colonel Hossing,³ and Shámli, with a revenue of Rs. 38,000, was added to Chhaprauli as the *jáglr* of Sháh Nizám-ud-dín, the comptroller of the imperial household and a firm friend of the Marhattas. It was, however, resumed by Perron in the rains of 1801 and included with Bidauli and Kairána in his personal *jáglr*.

The history of the Sikh in the Duáb during 1801-02 is so intimately connected with Thomas that I must again refer to his history.⁴ In 1801 Thomas raised his force to ten battalions of disciplined infantry with sixty pieces of cannon and secured to him-

¹ See Gazetteer, II., 252.

² See Gazetteer, II., 161.

³ Cunningham, 123.

⁴ Collr., Meerut, 21st May, 1803.

self a country yielding three lakhs of revenue a year. With this considerable force he made a bold attempt to besiege Lahoro and repeatedly beat the Sikhs who attempted to oppose his progress, and was beyond the Satlaj river, within four marches of Lahore, where he intended to plant his colours and make it the capital of his future empire, when he heard that the vigilant Perron was preparing to attack him. Thomas made a rapid retreat to Hânsi, fighting the Sikh horse who hovered round him, and marching thirty or forty miles a day. "His swift retrograde movement," writes Smith, who was then in the Marhatta service,¹ "astonished Perron, who had hoped to seize Thomas' defenceless country, before he could return to defend it; and who had determined to annihilate Thomas' force or to employ it to forward his own view. With this determination Perron collected ten battalions and two thousand horse and marched from Dehli in August, 1801, to negotiate with or to fight Thomas. Perron had previously strengthened his party by alliances with some Sikh chiefs, the political foes of Thomas, who had agreed to assist Perron with money and with cavalry (five lakhs of rupees and ten thousand horse) to exterminate their dangerous neighbour, George Thomas. In August, 1801, the two rival parties approached each other near Bahâdurgarh, ten kos to the west of Delhi. Thomas also had formed alliances with the Begam Sumru, with the Rajas of Jaipur and Alwar, and with Lafontaine, who commanded six battalions of Filoze's party in the service of Sindhia. Such are the singularity and treachery of eastern politics, that two of Sindhia's brigades, Sumru's and Filoze's, had agreed to assist George Thomas against Daulat Rao's commander-in-chief, Perron."

"I was employed to bring Thomas to terms and to an interview with his rival. Perron offered him sixty thousand rupees a month for his party, the rank of colonel, and the fort of Hânsi, if Thomas would take service with Sindhia and serve under Perron's order. Thomas, to gain time, agreed to Perron's terms, and with some difficulty I brought them to an interview; but they soon became mutually distrustful, and separated to commence hostilities. Perron wished to follow the political axiom '*divide et impera*;' he required Thomas to divide his force by sending four battalions to the assistance of Sindhia; and Thomas was ambitious, his alliances were strong, and Daulat Rao's detachments had just been cut off by the victorious Holkar at Ujjain, and Sindhia had made a precipitate retreat to Burhanpur. The time was propitious to the views of Thomas. Perron had only ten battalions: eight of his battalions: had been ordered to march to the assistance of Sindhia, whose affairs wore a gloomy prospect. Thomas wished

¹I quote from "A Sketch of the rise, progress and termination of the regular corps formed and commanded by Europeans in the service of the Native Princes of India: by Lewis Ferdinand Smith, late Major in Daulat Rao Sindhia's service," Calcutta circa 1804, as giving the account of an eye-witness.

to gain time until he could raise six battalions more—the recruits were on the way to join him, the arms were ready, and he desired further to strengthen his alliances. The victorious Holkar had repeatedly written to him to begin hostilities, and he would assist him with money and cavalry—in short, the chances were much in favour of Thomas; but he was a proof that in politics, as well as games, fortune mocks calculation and probability of success. Perron and Thomas were both too cunning to deceive each other long; matters could no longer remain dubious, and a rupture succeeded their hypocritical negotiations.”

“Thomas retreated to Hānsi, and Perron, unwisely, set off for Koil with Perron breaks with impolitic precipitation, leaving the war against his Thomas. enemy to be carried on by Bourquien,¹ who commanded DeBoigno’s third brigade and was a Major. Had Thomas acted with his usual prudence, boldness and activity, the forces under Bourquien must have been destroyed; the allies of Thomas would have then thrown off the mask and openly taken his part, and before Perron could have collected another efficient force, Thomas would have been master of Dehli, the king’s person, and probably would have extinguished Perron’s power and authority; and Sindhia would have quietly transferred that power to Thomas, for he would have been equally indifferent who governed Hindustan, Perron or Thomas, as he must, from his impotency to resist, have bowed to the will and power of every aspiring mind, who commanded large bodies of regular infantry. Hostilities commenced after the retreat of George Thomas and his army and the flight of Perron from his army. I was ordered with three battalions to lay siege to Georgegarh, a small fort, forty *kos* to the eastward of Hānsi. Thomas and his forces were encamped under the fort of Hānsi, and Bourquien was ordered with seven battalions and five thousand horse to lie between me and Hānsi to cover the siege of Georgegarh, which must have fallen in a week; but with singular ignorance, Bourquien encamped at Jin, ten *kos* farther from me than Thomas’s army. The consequence was obvious, for three days after I laid siege to Georgegarh, I was attacked by Thomas with eight battalions, compelled to raise the siege and retreat to Jhajhar, four *kos* to the east of Georgegarh. Favoured by the obscurity of night I was not completely cut off, and made good my retreat, with the loss of one gun and one-third of my force killed and wounded. How I escaped total destruction I do not yet know, and why Thomas did not follow my retreat I cannot say; for if he had continued the pursuit I must have lost all my guns, and my party would have been completely destroyed; but Thomas spared me and remained at Georgegarh after raising the siege. I believe he was apprehensive of following me for fear he should be too far from Hānsi, and that Bourquien, in the meantime, would cut off his retreat to his fort; but alarm in his troops, I believe more strongly, to have

¹ This man’s real name was Louis Bernard.

been the cause of his strange conduct. The next day, the 28th September, my brother, Captain E. F. Smith, arrived to my assistance with two thousand horse, after performing an astonishing rapid movement of eighty miles in ten hours; but brotherly affection gave impulse to his course, and his example hurried on most of the cavalry. This circumstance prevented Thomas from renewing the attack on me, as he intended, on the 28th September. On the 29th September, 1801, Major Bourquien, with the third brigade, reached Georgegarh, after a surprising march of forty *kos* in thirty-six hours. The brigade arrived about mid-day, but the troops were harrassed, fatigued, and famished. With destructive imbecility, Bourquien ordered the troops, consisting of seven battalions, to storm Thomas's intrenched camp at 4 o'clock in the afternoon. He did not lead the attack himself, but prudently remained with the cavalry two thousand yards in the rear of George Thomas's line. The seven battalions of DeBoigno, with calm intrepidity, advanced with their guns through heavy sand, exposed to a dreadful and well-directed fire of fifty-four pieces of cannon, and attacked Thomas's ten battalions in their intrenchments; but they were repulsed with the severe loss of above one thousand and one hundred men killed and wounded, which was nearly one-third of their number. Their slow progress through the heavy sand which lay in front of Thomas's lines, owing to their guns, which they would not leave in their rear, occasioned not only their defeat, but their dreadful carnage. Thomas's loss was not so great, as the guns of DeBoigno's battalions were mostly dismounted by their recoil on the sand, when fired, which snapped their axle trees.

“Among the killed was a very amiable and gallant young officer, Captain E. F. Smith, who commanded the left wing of De
 Defeat of Thomas. Boigno's battalions. Had Thomas taken advantage of Bourquien's ignorance and folly and sallied out on the defeated troops of Porron, he would have overturned his power: but Thomas was in this critical moment confused and confounded, though he had shown feats of valour during the action. Moreover, he had only two European officers to assist his exertions and direct a line of ten battalions, one of whom, the gallant Hopkins, lost his leg, and his native officers had been bribed over to Perron's interest. Fresh forces arriving, and Thomas unable or unwilling to retreat to his fort, was surrounded at Georgegarh: Colonel Pedrons arrived, superseded Bourquien, and blockaded Thomas and his diminished troops. They sustained the blockade for seven weeks, and at last were conquered by famine. The troops came over to Pedrons or dispersed, and Thomas escaped with great difficulty with his European officers, Captain Hearsey and Lieutenant Birch, who adhered to his fallen fortune with commendable inflexibility, to Hânsi, and left his enemy in possession of fifty-four pieces of cannon, his camp and baggage. Pedrons returned to Koil and Bourquien followed Thomas to Hânsi,

stormed the town and laid siege to the fort. The fort of Hānsi has been celebrated in oriental history: it was one of the strongost in India, and above forty thousand Musalmāns lie buried on the circumjacent plain, of the various armies of the faithful who attempted to wrest it from the Hindūs. Ala-nd-din Ghorī took it six hundred years ago after an eighteen month's siege and the loss of twenty thousand men; but it had been dismantled and lay long neglected, and Thomas had not had sufficient leisure to renew its strength. Moreover, Bourquien had subdued the garrison with gold, which in India is more irresistible than in Europe. In this critical situation I came forward once more to assist Thomas to mitigate the severity of his misfortunes and dissipate the dangers with which he was environed. I advised him to an honourable surrender before the garrison delivered him over to his enemy, with eternal disgrace to themselves and ignominy to him. He followed my council, surrendered the fort on the 1st January, 1802, and with his family and private property was conveyed to the Company's frontiers under my protection. His misfortunes had broke his daring mind and impaired his robust constitution; and the luxuries of Indian tables hurried him to his grave in the end of 1802." Perron and the Sikhs thus, fortunately, got rid of an inveterate foe, and the British lost in Thomas an ally who would have been of much assistance to them in their subsequent wars with the Marhattas.

In November, 1801, the treaty of Lucknow was concluded which gave to

The conquest.

the British the Lower and Central Duāb, Gorakhpur, and a great portion of Rohilkhand. This was followed

by the treaty of Bassein, which Sindhia considered so injurious to his interests that he, at once, threw all his influence into the scale against the British, and war was declared. General Lake captured the fort of Aligarh in 1803, while Perron, the Marhatta commander, delivered himself up to the English at Muttra. The British marched upon Dehli, and defeating a Sikh contingent under Louis Bourquien expelled the Marhattas, and eventually Muzaffarnagar came into their possession with the remainder of the conquered provinces. A few days after the capture of Dehli Colonel Burn occupied Sahāranpur. He had, however, hardly reached it when the Sikhs were again on the border.¹ Lieutenant Birch with a party of najibs pushed on to watch the fords while reinforcements were asked for from Dehli. Colonel James Skinner with a strong detachment of some 800 irregular horse crossed the Jumna lower down and completely surprised the enemy (February, 1804), routing them with great loss. Posts were, then, established along the Jumna and a battalion of the Begam's from Sardhana occupied Chilkāna. But the Sikh sardārs tendered their submission and all was peace for a time. In September, Colonel Ochterlony recalled the troops at Sahāranpur to aid in the defence of Dehli, then

¹ Gazetteer, II., 252.

threatened by Holkar's adopted son Harnáth. The entire Duáb rose in their rear, and in October, 1804, Sher Singh of Burhiya and Rái Singh led the last great Sikh expedition across the Jumna by Rájghát opposite Sultánpur, (13th October). The Sikh chiefs were not inclined to give up their claims to *ráki* and *kambli* from the Duáb without a struggle, and, notwithstanding their submission in March, were prepared to take advantage of the opportunity afforded by the advance of Holkar's forces in October to vindicate their alleged rights. They marched down by Damjhera, where a skirmish is said to have taken place, and thence by Ohilkána, where the Sayyids offered some feeble resistance. In Sultánpur the house of an old servant of the Sikhs alone escaped destruction, and as they approached Saháranpur, the Collector (Mr. Guthrie) was obliged to shut himself up in the old fort known as the Kila Ahmad-*abadi* with his records and treasure.

Colonel Burn, on hearing of the advance of the Sikhs, set out from Dehli, on the 25th October, with the 2nd battalion, 14th Act'n near Shámli. N.I., a battalion of irregulars under Captain Harriott and six guns (one 18-pounder, one 12-pounder and four 6-pounders) and was passing on rapidly to the relief of Saháranpur, when he was overtaken by the Marhatta cavalry near Kándhla. Jaswant Rao Holkár with a large force of horse had escaped from Dehli with the determination of cutting off the small force destined for the relief of Mr. Guthrie. The subsequent fight is thus described from official records by Mr. Williams¹:—"After a vain attempt to cut his way through the enemy, whose swarms were hourly increasing, Colonel Burn found himself constrained, on the morning of the 30th, to occupy a small mud fort under the very walls of Shámli, a hostile town, which closed its gates against him. The villagers all know the spot well. It was afterwards distinguished by one of the most gallant fights, and one of the most cold-blooded massacres, that ever happened during the mutiny. His situation was, to all appearance, desperate. The detachment amounted to barely 1,500 men, the force beleaguering it to fully 20,000, without counting a reinforcement of Sikhs, and the townspeople showed the same spirit that characterised their conduct in later days, not only intercepting supplies and harbouring the enemy within their walls, but themselves taking an active part in the assault. Their matchlock-men, sheltered by the ramparts, kept up such a deadly fire upon our sepoys in the fort beneath, that they actually did greater execution than Holkar's regulars, putting upwards of one hundred men *hors de combat* before Colonel Burn was relieved by General Lake on the 3rd November. In the interval, the garrison fought with devoted bravery, amid cruel privations. The same cannot be said of the Marhatta host, who vanished at the sight of the dust rising along the Dehli road in advance of the British column.

¹ Cal. Rev., LXI., 53.

The episode curiously illustrates the force of hereditary predisposition. Ghási Rám, the leading Ját zamíndár of the place, was chiefly instrumental in stopping Colonel Burn's supplies and otherwise annoying his forces. His son Mohar Singh, following in the paternal footsteps, was consequently hanged on account of similar achievements during the year 1857. The British commander permitted his troops to burn the town as a punitive measure. This, we are told, had a most wholesome effect in other quarters. For instance, at Thána Bhawan, some twelve miles north, ordinarily a hot-bed of disloyalty, Holkar, whose first impulse seems to have been to effect a junction with the Sikhs in Saháranpur, met with such an unfriendly reception that he changed his mind and doubled back again in a south-easterly direction. Meerut was equally inhospitable, so he continued his flight southward."

Colonel Burn heard at Shámli that one of the Begam's regiments had rescued Mr. Guthrie, who joined the army at Khátanli and accompanied the force to Meerut. As soon as Colonel Burn heard of the fall of Díg, he advanced northwards (18th November) against the Sikhs who had now penetrated as far as Shámli and Ghafúrgarh in parganah Soron. His force consisted of the 2nd battalion, 14th N.I., the 1st battalion of the 21st N. I. under Captain Atkins, one battalion of regular infantry, 2,000 Bahrúich horse under Captain Murray, and a few guns. In two days they reached Jaula in parganah Budhána, and thence proceeded to Thána Bhawan, driving out Gurdatt Singh of Ladwa, who joined the remainder of the Sikhs at Charaon, on the banks of the Hindan, seven miles west of Deoband. Here the enemy chose a strong position, and supported by the Gújars and Ránger Rajpúts awaited the advance of the British force. On the 24th November the Sikhs were attacked and defeated with considerable loss, but owing to the cowardice displayed by the irregular horse, the fortunes of the day were for a long time doubtful.¹ Sher Singh lost a leg by a cannon-shot, and his old uncle, Rái Singh, led him off the field to die at Burhiya. In spite of their punishment the Sikhs again invaded the district and occupied Thána Bhawan, Rámpur, and the neighbourhood of Deoband. Colonel Burn advanced by Thána Bhawan and attempted to surprise the Sikhs who occupied Tholu near Bhálu in parganah Gangoh, of the Saháranpur district, on the night of the 19th December, 1804, but was unsuccessful; for hearing of the approach of the British the Sikhs fled by Chilkána, across the Jumna. Colonel Burn would have followed them up, but orders were received forbidding him to cross the river. Colonel Burn returned to Saháranpur, and early in the following January drove out small parties of Sikhs who had advanced as far as Muzaffarnagar on a purely plundering expedition.

¹ See further Cal. Rev., LXI., 346, for a more detailed account of this action, in which Shalkh Kalan (Gaz., II., 212,253) and Kázi Muhammad Ali of Manglaur distinguished themselves on the side of the British.

During January the troops were employed in suppressing a disturbance which arose in Kándhla. Mr. Williams writes :—"The Ját and Gújars had risen at the instigation of Jaswant Ráo Holkar and massacred several of the

The Azímgirdi disturbance. Kánúngoi Baniyas, a family abominable to them, because it enjoyed the twofold advantage of holding what were then considered lucrative appointments under Government and of also possessing other facilities for amassing money, which the procedure of the civil courts has since enabled them to accumulate with still greater ease. The Sadíki Shaikhs, the impoverished descendants of Shaikh Imám Haj of Samana, share the credit of having contrived the conspiracy with the Ráizádah Baniyas, speculators less prosperous than the Kánúngoís. One Azím, a Musalmán Gújar, supposed at first to have been the ringleader of the insurgents, gave his name to the *emeute*, which is styled the 'Azímgirdi.' Subsequent inquiries shifted the chief blame from his shoulders to those of Langir Gosháin, Mahant of Garh Gosháin, a fort north of Rámpur Kheri, near Kándhla, before which Colonel Burn appeared on the 22nd of January, and, after storming it, hung the Mahant on the spot. Two of his Ját associates, Ráj Karn of Lisárh and Dhan Singh of Harmastpur, fondly imagined that they would get off scot-free by presenting themselves in Mr. Guthrie's kutcherry with an air of injured innocence. Their cunning availed them not, for they were instantly seized and likewise executed, under a military sentence, close to the scene of their exploits."

During the early part of February the troops were occupied in assisting in the collection of the land-revenue and in patrolling the Jumna until towards the middle of the month, when news came of the irruption of Amír Khán. Colonel

Amír Khán.

Burn was then at Tándá, in parganah Ohhaprauli of the Meerut district, and Begam Sumru had two battalions and eight guns close by at Kutána, which she at once reinforced with the bulk of her army. Colonel Burn retired by Thána Bhawan to Saháranpur, and there received orders to watch the fords of the Ganges and prevent the Pindáris from crossing. At this time he took advantage of the proffered services of Bhág Singh of Jhínd and Bhái Lál Singh of Kaithal, and leaving Saháranpur under their care marched by Jabarhera, Púr and Tisha to Míránpur, where he was joined by Mr. Guthrie. A small body of the enemy crossed near Shukartár, but soon retired, and Colonel Burn proceeded southwards to Garhmukhtesar while the Collector remained at Míránpur. Towards the end of February, Mr. Guthrie proceeded to Fazlgarh, about seven *kos* from Meerut, and made it his head-quarters. He applied to Colonel Burn for a treasury guard, adding—"I request that it may be understood that I do not apply for a personal guard," though his recent experience at Saháranpur would have fully supported such an application. The fact is that, at this time, a jealousy sprang up between the military and civil authorities, which showed itself in the former refusing a

personal guard to the Collector, while the latter rendered no assistance in obtaining supplies. The cause of this jealousy appears to have been chiefly due to the Collector siding with and expressing the greatest confidence in the loyalty of the Begam Sumru, whilst Colonel Burn declared that he had good reason to know that she was then intriguing with the Sikhs and Marhattas.

On the 9th March, Gurdatt Singh and others again threatened Káandhla, and, on the following day, the native officer at Kairána reported that a body of 4,000 Sikh horse had crossed the Jumna and were plundering in their accustomed manner. It was also said that the Sikhs had received two lakhs of rupees from Holkar to assist Anúr Khán. Colonel Burn was beginning a series of reprisals, but was obliged to co-operate with the Rohilkhand forces in the pursuit of the Pindáris. On the 12th March Mr. Guthrie wrote that he hoped to hold out in Fazlgarh with a small local force, some twenty Moradabad provincials and eighty matchlockmen. He had only eight rounds of ammunition per man, but "the enemy," he writes "have no guns, and can only take it by escalade, to attempt which they possess neither courage nor materials." Still, on the 13th March, the Pindáris attacked Hápúr close by, and were it not for the determined resistance offered by the tahsildár, Ibráhím Ali (p. 384), would have captured the place and have effected a junction with the Sikhs. On the 16th, the Sikhs, to the number of 2,000, were in the neighbourhood of Shámli, and Gurdatt Singh sent word that he would join the invaders on the 17th. One consequence of this was that Gurdatt Singh's *jáytr* of Jhanjhána was attacked.¹ Rájá Ramdayál Singh and the Marhal chief, Muhamdi Khán, were directed to protect the Haridwar fair from the Sikhs, but could send few men, and in consequence many merchants were plundered. On the 17th, true to his word, Gurdatt Singh joined the raiders and attacked Thána Bhawan, but the Sikhs were repulsed by the Kúzi and lost thirty-five men, killed and wounded in the affair. Colonel Burn was about to proceed after them when a despatch was received from Delhi offering an amnesty to all the Sikh chiefs with the exception of Gurdatt Singh (27th March). But the Sikhs did not stay their hands, and, on the 7th April, got as far as Míránpur, and on the following day news was received of their having plundered a number of villages near Khátauli and of straggling parties being seen near Fazlgarh and Moerut. Wherever they went they burned the harvest on the ground, plundered the villages and levied contributions. But, in the meantime, Colonel Burn was making preparations for carrying the war into the enemy's country, and on the 5th April the British forces crossed the Jumna and sat down before Gurdatt Singh's fortified town of Karnál. Rái Singh, Mahtáb Singh and others had left the Duáb, while the remaining allies of Gurdatt remained about seven kos from Fazlgarh, collecting the harvest and threatening Mr. Guthrie,

¹ 29th March, 1805.

who said that he could hold the fort for seven days, but had ammunition for no longer time. At this time, intelligence was received of the departure from the Sikh camp of Shahíd Khán, the nominal subahdár of Saháranpur on the part of Holkar, and of a raid by a force from Burhiya, the residence of Sher Singh, who was mortally wounded at Charaon. These Burhiya Sikhs occupied Gháziuddín-nagar, near Saháranpur, which they claimed on an alleged *istimrári* grant which was subsequently disallowed. The fall of Karnál effectually put an end to all Sikh invasions, and though rumours of the approach of a force from Patíála and of Ranjít Singh from Lahore were rife in October, no invasion took place. As a precautionary measure, however, two battalions and eight guns were sent from Sardhana by the Begam to Thána Bhawan, and one battalion with four guns to Meerut, while Colonel Burn occupied Sonpat. The Marhal *jágírs* in Muzaffarnagar and Bhanga Singh's *jágír* in Bidauli were subsequently exchanged for lands west of the Jumna. Nothing now remains to complete this short sketch of local history but the continuation of the account of the Sayyids and a record of the events of the mutiny, with which I shall now conclude.

With the advent of the British, many of the Sayyids who had left the district returned, but many, and, indeed, most of them, had been
 Sayyids after the conquest. so long away that they were unable to prove their title to their ancestral lands. The country was certainly at peace and the people were again able to leave the walled towns and attend to the cultivation of the small villages and their outlying hamlets, and henceforth no one had to fear open violence. But a danger awaited the Sayyids, both the returned emigrants and the surviving residents, which, in the words of Mr. Cadell, "was mere insidious and more fatal to them than the old one, and when they fell victims to their own extravagance and our revenue procedure, to the civil courts, and the ever watchful money-lender, they had almost reason to regret the days when they were vassals of the Gújar chief or of Marhatta soldiers, and when the lands that remained to them were every now and then being desolated by the march of armies or by Sikh and Rohilla raids." Though the Gújar chiefs still retained,¹ for some years, their vast estates under the name of *mukararis*, the Sayyids were almost universally acknowledged as proprietors in the tract in which, before the fall of the empire, they had completely established themselves. In some cases the claims of the village communities were strong enough to demand serious consideration, yet, as a rule, the Sayyids were restored and the grounds of the few exceptions can be clearly traced. The Rajpút *mukararidár* retained a few villages to the south-west; the debateable ground of the Bhukarheri village was left with a Ját brotherhood, and here and there the Sayyid rights had succumbed to the Marhattas or the Gújars.

¹ See Saháranpur District, Gazetteer, II, 199. Raja Nain Singh's *mukarari* remained intact until 1808 (see Meerut District) and the Rajpút *mukarari* was exchanged for lands in Karnál.

The general fiscal history of the district during the earlier settlements has been given on a previous page and under the Sahāranpur district, and my intention, here, is only to show how the revenue administration has affected the class that once formed the characteristic element of the population, and incidentally with them the Jāts, Gújars, and others. Mr. A. Cadell, in one of his manuscript reports, notes that though the lapse, by the death of the grantees of the great estates held on a fixed revenue (*mukarari*) had the effect of restoring the old Sayyid families, they no longer held by virtue of inheritance only, but in very many cases retained their lands without any defined or tangible ground for their position as proprietors. Most of the *mukararis* were granted to individuals and not to communities, and in deciding upon the pretensions of the respective claimants to the proprietary right there was, on the one hand, a single individual or family, and on the other a large and turbulent body of Sayyids who, with much show of reason, asserted a right to a share in the whole estate. "In fact, until quite recent years, the process of weeding out rightful owners has been going steadily on and many of the largest Sayyid estates have not been acquired by inheritance or even by purchase, but are examples of the survival of the fittest or of the least scrupulous of the large communities. In many cases the ousted owners have been avenged and the spoiler and the spoiled are alike at the mercy of the money-lender, while in others the old quarrel still goes on, and even the most well-meaning and considerate landlords have inherited with their property an amount of inveterate hatred which is always unpleasant, is frequently inconvenient, and is on some occasions dangerous." It is difficult to state with accuracy what rights the old communities enjoyed under their Sayyid masters, but in old papers both before and after the British rule the names of *mukaddams* or headmen were entered with those of the proprietors, and in times of difficulty the persons recorded in those papers were those who were looked to for the fiscal management of the village. At the settlement in 1841, numbers of villages were settled with the cultivating communities, who were "vested with the entire management of their villages; they arranged for the cultivation of the land, had complete control over the village site, ponds and waste lands, built houses, sank wells and planted groves, and the landlord, whether Sayyid or purchaser, received nothing beyond the amount (eighteen per cent. on the assessment) fixed as landlord's profits."

At the settlement in 1863, however, a new policy was adopted. "Not only were the landlords restored to their old position, but it was gravely recorded in the village administration papers which were not attested by the tenants that the very communities who during the period of settlement had exercised complete control over the estate were not in future to exercise even the minor privileges of planting trees and sinking wells in accordance with the acknowledged custom long antecedent to the

Effect of the revision of
1863.

settlement of 1841. This provision and the judgment of the High Court of these Provinces imposing the penalty of dispossession on the digging of wells by cultivators proved fatal to many tenants, and although in some cases landlords were afraid to execute the decrees which they obtained, not a few tenants were ousted and a wrong was done which it has been found difficult to remedy." On the lapse of Raja Rāmdayāl's *mukarari*, in 1813, the Gújars could show no valid claim to most of the villages belonging to it in the district. Many of them belonged to the Sayyids, but they had been long out of possession, and nearly all the villages of the *mukarari* were settled with the cultivating communities, and the Sayyids got only a few poor estates. "But far more fortunate were the Baniyas who had purchased in some cases the rights of Sayyids or could show deeds of sale executed by the *mukaddams*. From the civil courts the Baniyas got all they wanted; in the revenue courts it seems to have been assumed that rights on the part of the communities were incompatible with the Sayyid claims." In one village where the remains of buildings erected by the Sayyids showed the permanency of their occupation they were declared to have no rights, but where even the shadow of a right came by transfer into the hands of the Baniya *diwán* of the late Gújar Raja it was upheld.

"Mr. Cavendish¹ appears to have, throughout, taken the part of the communities, to have held that the representative of a community could alienate his own rights but not those of the community; but the Mahájans seem to have held their own, and while in some cases in the search for cultivating landlords even the Chamárs holding land in the midst of a weak Ját community were invested with proprietary rights, and in another Ját who could point to a descent of only two and three generations from the men who had settled round the Sayyid fort were proprietors, in others the faintest Sayyid claim became unimpeachable when it passed into the hands of a Baniya, and the strongest cultivating right melted away when he resisted it. The old communities upon whom were conferred proprietary rights have certainly shown themselves right worthy of the favour that was shown them; they have held together under no ordinary difficulties, and in a dry unwatered tract have paid to Government assessments which would have been severe even under more favourable circumstances. But strong communities cannot always be improvised, and the new, untried communities have proved unequal to the responsibilities which were imposed upon them and have, in a great measure, given way. It would probably have been more in accordance with justice and would have secured more general prosperity if the rights of both parties, the former Sayyid owners and the village communities, had been recognized. The Sayyids would then have become *talukadárs*, whilst the old village communities would have remained in possession of all that they had previously enjoyed."

¹ *Sol. Rev. Rec., N. W. P., 1822-33, page 84.*

The result of all these measures was that in the north of the eastern parganas, Taga, Gújar, Ját and Rajpút communities were Results of the settlements. invested with proprietary rights, whilst, in exceptional cases, Sayyids were declared proprietors, and the money-lenders who had purchased, in some cases, the rights of Sayyids, and in others those of the representatives of cultivating communities, received, in either case, the fullest consideration. The representatives of the old Gújar Rajas were allowed to retain only those estates to which no adverse claim of any strength was made. To the south, Sayyids were confirmed in full possession of the proprietary right in those estates which their ancestors had acquired. To the south-west, Rajpúts were confirmed in the acquisitions made by them during the eighteenth century, and towards the south-east, a few Ját communities of long standing were admitted to engage for the Government revenue. During the seventy years of British rule, the ruin of the Sayyids has progressed rapidly year by year. Extravagance, litigation, family dissensions and an utter recklessness¹ in money matters have distinguished the race. Idle, careless, discontented and thriftless, their fate is sealed, and in a few more years the great mass of the Sayyids of Bárha must sink to the level of the ploughman and those who earn their bread with the sweat of their brow. I now turn to the history of the mutiny as the next great event deserving record here.

The history of the mutiny in this district presents a marked contrast to the account given of the neighbouring district of Saháranpur. When the outbreak at Meerut, on the 10th of May, took place Mr. Berford, the Magistrate of Muzaffarnagar, was at Saháranpur, and, at once, returned to his district. He was then met with the most exaggerated reports of a general rising throughout the Duáb, and disturbed and bewildered, hastily issued orders that all the public offices should be closed. The natural effect of this unwise measure was a general impression that the British rule was suspended throughout the district, and rumours of the rapid approach of mutineer troops gained ground, and in the absence of all letters, public and private, from Meerut, appear to have been generally The Magistrate incapable of action. believed. Mr. Berford's acts strengthened this belief, and the courts were never again opened until the disturbances had ceased. Mr. Berford had heard that the prisoners in the jail intended to rise and murder the Europeans, spent the night of his arrival in the station in hiding amongst the people of Sarwat. As nothing remarkable took place during the

¹ Mr. Grant mentions an instance of their utter carelessness in money matters. Some fifty years ago the Khátuli Sayyids had an agent to whom was intrusted the whole management of their estates. Requiring money for his son's wedding he embezzled the whole proceeds. The Sayyids mortgaged sixteen villages to a money-lender for Rs. 17,000, and he sold his claim to the Nawáb of Karnál for Rs. 28,000. The Nawáb foreclosed the mortgage and became proprietor of the whole of the villages. See further Rev. Rep., I., N. S., 162, and section on transfers *antea*.

night, he returned to the station and consulted with Mr. C. Grant, who had been recalled from camp. The result of their deliberations was an order to all the official community to abandon their bungalows and assemble at the *tahsili* or office of the native sub-collector of the land-revenue. The result showed that there was no necessity for this course of action, for although two bungalows were burned during the night, the Magistrate's guard were able to beat off a body of plunderers from Mr. Berford's house, to which the party returned next morning. During the day the *tahsili* was again occupied, but the guard of the 20th N I., profiting by the absence of the Europeans, plundered the treasure (Rs. 85,000) and were permitted to retire unmolested though they could have been punished without difficulty. To add to the confusion, the subalidár of the escort sent an abusive message to the tahsildár, Sayyid Imdád Husain, accusing him of eating pork and other forbidden food, and fearful of the consequences, it was resolved to separate. Mr. Berford disappeared during the discussion and took refuge in the house of some Sayyids at Abupura, whence orders were issued for the release of the prisoners in the jail.¹

This proceeding gave a final blow to all appearance of order. The ill-disposed amongst the inhabitants saw that they could, with impunity, commit any excesses, that nobody interfered with them, and that the few men who had been captured while raiding in the city were now as free as themselves. Assisted by Mr. Berford's own servants, the rabble, at once, commenced to finish the plunder of the *tahsili* treasure and the bungalows, and then proceeding to the jail, they destroyed the barracks and removed even the door-shutters and the iron rails. All the public offices were burned down on the 14th of May, and Mr. Grant is decidedly of opinion that the destruction of the records was brought about by the Sayyids, and that those individuals had spread false tales of approaching mutineers and dakaitis to induce the district officials to take shelter with them and so get them out of the way while the work of destruction went on. That much of this plundering and burning could have been prevented is shown by the fact that on the 15th May the kotwál (Ahmad Husain) or principal police officer of the town, with the assistance of the mounted orderlies under Dáúd Khán, was by himself able to defeat and disperse a large body of marauders who had assembled to plunder the bazars. Fifteen to twenty prisoners were brought in, but appear to have been dismissed without any punishment. From this time to the 21st June no attack nor dakaiti was committed or attempted on the town, though reports of intended attack were frequent. The current work of the district was left to Mr. C. Grant, who established small guard-posts on the principal lines of communication, enrolled horse and foot, and despatched letters of encouragement to the principal landholders.

¹ From Mr. R. M. Edwards' official narrative, dated November 16, 1858.

It was unfortunate that Mr. Grant's sense of discipline prevented him from
 Murder by the 3rd Cavalry. openly resisting the feeble counsels of his senior officer, who soon gave fresh signs of weakness, for when a squadron of the 3rd Light Cavalry signalled their arrival from Meerut by shooting a wretched shop-keeper, Mr. Berford accepted the verbal explanation of the principal offender without any inquiry as to its truth. With the exception of an abortive attempt on the part of Mr. Berford to escape to Meerut, nothing of importance occurred until the 29th, when the station was reinforced by a detachment of eighty troopers of the 4th Irregular Cavalry under Lieutenant Clarke, who was subsequently relieved by Lieutenant Smith. The police did nothing to assist in keeping order. "They appear to have come to an understanding with the people that neither should interfere with the other. That if the villagers permitted the police to remain quietly at their stations and draw their pay, the villagers might commit what crimes they pleased without any attempt at prevention on their part. The natural result was that violent crimes of all kinds were daily, almost hourly, committed throughout the district, not secretly nor by night, but openly and at noon day. It is needless naming the chief crimes; it is sufficient to remark that here, as in other parts of the country, the Baniyas and Mahájans were, in the majority of cases, the victims, and fearfully have many of them been made to suffer for their previous rapacity and avarice." Parú and Bijupura were visited and punished, and matters were improving until the 21st June, when the 4th Irregulars rose and murdered their officer, Lieutenant Smith.

This outbreak is thus described by Mr. R. M. Edwards:—"About 3 p. m.,
 Murder of Lieutenant Smith by the 4th Irregulars. on the 21st June, a camel-rider arrived from Shámli; he did not come in by the direct road, but passed round by the public offices, and entered the lines of the 4th, and no doubt brought some letter or message to the men from their comrades stationed at Shámli. He left again in a short time, and soon after his departure a trooper went into Mr. Berford's bungalow, apparently to call Lieutenant Smith, as that officer accompanied him into the lines. Mr. Dalby, head clerk, who was in a tent outside the bungalow, saw the arrival and departure of the camel-rider, the trooper go to the bungalow, and Lieutenant Smith returned with him, and, at the time, noticed that Lieutenant Smith, who was in the habit of visiting the lines every evening, was going to his men at an unusually early hour. Shortly after the report of a musket was heard, and some natives called out that a dog had been shot. This was, however, almost immediately negatived by one of the Magistrate's chapráís, Bishan Singh, who rushed into the bungalow, saying that the Adjutant had been shot by his men. The party then in the bungalow, viz., Messrs. Berford and Grant, Mr. Dalby and Mr. Butterfield, with their families, at once left it and went to the out-houses in the

rear of the house, where the jail-guard were stationed. The risaldár of the cavalry came to Mr. Grant and told him that he had put the man who wounded the Adjutant into confinement, and asked that officer to go to the bungalow and see Lieutenant Smith, who had been brought in then by some dooly-bearers and was being attended to by the native doctor. Mr. Grant was accompanying the risaldár, when Mr. Butterfield went forward and prevented his doing so, saying the men meant treachery. The sepoys of the jail-guard now said that the whole party should at once repair to the tahsíl, which they did by a short and unfrequented road, accompanied by the guard, as the cavalry were evidently preparing to mount, and were beginning to surround the bungalow. Mr. and Mrs. Butterfield, when half way, returned to the bungalow to procure some necessaries forgotten by them in the hurry of departure. There they managed to secure, and had proceeded some distance towards the tahsíl, when Mr. Butterfield was shot by one of the troopers; his wife begged them to kill her also, but though they threatened her she was left uninjured. Mr. Butterfield's body was slashed with nine cuts and one hand was cut off on account of the ring upon it. The party reached the tahsíl only just in time, as several troopers galloped down the main road, with the evident intention of cutting them off, but returned on seeing them enter the gate.

"Lieutenant Smith, whose first wound was not mortal, was put into a dooly and was being taken to the tahsíl, when he was followed by some of the cavalry, dragged out and murdered. The body was much disfigured by sword cuts and one of the hands was cut off for the sake of the ring. The bodies of Lieutenant Smith and Mr. Butterfield were removed that night by Mr. Dalby's younger brother, and Mr. Kelly, brother of Mrs. Butterfield, to their bungalow. They lay there unburied for two days and two nights, and were eventually interred by these two men close to the house. The bodies were subsequently removed to consecrated ground. About 8 o'clock the same evening the whole of the 4th came to the tahsíl and asked the sentry what regiment he belonged to, and called out to all true Muhammadans to come over and join them, and demanded that the *kafirs* should be given up. They at first insisted that the tahsíl should be opened in order that they might rob the treasury and murder the Christians. Imdád Husain, tahsildár, behaved extremely well, Mr. Grant informs me, and distinctly refused to listen to the troopers, though taunted, threatened, and abused by them. Dáúd Khán, sub-officer of the mounted orderlies, went out to the mutineers and asked them what they wanted. They replied, the lives of the Christians. He answered that though the Europeans had certainly come to the tahsíl they were not there, and if they were he would not give them up. They then demanded the treasure. He said he had nothing to do with the money and no power over it, and re-entered the tahsíl, when it was settled to give up the amount in the chest, about Rs. 6,000. On receiving it, the troopers left in a body, going round by Abú-pura with the intention,

apparently, of discovering whether the Europeans had again sought refuge there and then passed on to Shámli, where they were joined by their comrades. Nobody attempted to stop or interfere with them. Before their departure they burned Mr. Berford's bungalow and carried off Messrs. Grant's and Berford's horses. The staging bungalow and Mr. O'Farrell's bungalow, were burned the same night." This outbreak was clearly preconcerted between the cavalry at Muzaffarnagar and those at Shámli, and had the Europeans been weak enough to trust themselves to the troopers they would have all shared the fate of Lieutenant Smith and Mr. Butterfield. Imdád Husain's gallant conduct has been attributed to an intelligent foresight, but no such cause can be assigned for Dáúd Khán's stannchness. He was an illiterate, ignorant man, and had actually himself served with the mutineers: stranger still, all the mounted orderlies followed his example. Another man whose name deserves honourable mention was Ghaus Muhammad Khán, the officer of the jail-guard. The conduct of all these men shows what might have been done had there been a few resolute European officers at the head of affairs, and renders this lamentable episode all the more disgraceful to the person concerned. On the morning of the 22nd June a body of villagers attempted to attack the town, but were driven off by a party of district horse and the jail-guard. On the 26th, Lieutenant Clarko arrived with a party of the 3rd Cavalry, and on the 1st of July Mr. R. M. Edwards marched in from Saháranpur with a body

of Gúrkhas and took charge of the administration of the district. He reported that on his arrival he "found the district much disorganized, all work seemed to have been long suspended, and even Government servants, with whom had been found large sums of money plundered from the treasury, were not only unpunished but had been permitted to remain in Government employ. The collecting establishment was in existence, but not the least attempt was made to collect the land-revenue. The police were also nominally at work, but did nothing but clamour for their pay, and there was no money wherewith to settle their claims." Mr. Edwards' first efforts were principally directed to the restoration of confidence in the civil station, the re-establishment of the jail, the keeping open the communication on the principal lines of road, the security of the postal service, and the collection of the land revenue. In the town of Muzaffarnagar, the shops were all closed and the people were accustomed to fly and hide themselves on hearing of the approach of marauders. Gradually by the show of a little firmness and common sense confidence was restored. In the district, the sub-collectors of the revenue reported that there was no use in attempting its realisation until the fate of Delhi was known. Here, "also," when the collecting establishment knew that they must work or resign, great improvement was effected, and in a short time the revenue began to be collected with vigour. Demonstrations were made in the Shámli talisil and amongst the villages of the Ganges parganah; and by the end of

August Rs. 2,70,535 were remitted to Meerut after paying all the district expenses, and this, too, "without the sacrifice of a single life and without maltreating in any way a single soul."

A further detachment of Gúrkhas arrived towards the end of August, and about this time disturbances recommenced throughout the district. The presence of the troops was called for at Shámli, where differences had occurred between the tahsildár and Mohar Singh, the principal Ját landholder; and from this town Mr. Grant led an expedition (September 2nd) against Parasauli in the Kándhla parganah, the residence of Khairáti Khán, Pindári, a noted rebel. The attack was repulsed and the party was obliged to return to Shámli. This movement had an unfortunate effect on the state of affairs. Khairáti Khán was at once joined by the people of Jaula, Baraut and Bijraul, and drove out the police from the fort of Budhána, where he established his head-quarters. Reinforcements were sent to Shámli and the Magistrate himself hurried to the spot. Whilst there, news arrived of a rising amongst the Shaikhzálahs of Thána Bhawan, and hourly tidings of fresh disturbances all round were received. On the 12th September the revenue peons were expelled from Jhanjhána and Kándhla. "Disaffection generally prevailed from the line of the Hindan going westwards, including portions of parganahs Budhána, Shikárpur, Baghra, and Chartháwal, with the entire parganah of Thána Bhawan and the Ját villages of Shámli, whilst the Kándhla parganah as far as the Jumna Canal and part of Jhanjhána was also disturbed." An attack on the Játs of Kándhla was determined upon, and on the 14th Jaula was taken after a sharp resistance, and the same night the troops encamped within the fort of Budhána.

During their absence Shámli (see SHÁMLI) was attacked by the Thána Bhawan insurgents headed by the Kázi Mahbúb Ali and his nephew Ináyat Ali Khán, and was captured. The rebels murdered 113 men in cold blood, and the ferocity of the Musalmáns was shown by the slaughtering of all who took refuge in the mosque and temple adjacent to the tahsil. "They were to a man cut to pieces, even little children were slaughtered, and the inner walls of both edifices were crimsoned with blood." The troops at once proceeded to Thána Bhawan and attacked the town, but were repulsed with the loss of 17 killed and 21 wounded, and were obliged to retire upon Muzaffarnagar, which was again threatened by marauders. On the arrival of reinforcements from Meerut, an expedition was again led against Thána Bhawan which was evacuated by the enemy, and the gates and walls were razed to the ground (see THÁNA BHAWAN). Muhammad Ali Khán of Jakálabad was made tahsildár of Thána Bhawan, Shámli was re-occupied, and the forces proceeded to the Ganges parganahs, to operate against the troops of the rebel Rohilla Nawáb of Najíbabad. With the exception

of a smart kirmish at Mirānpur, the operations of the troops in this district until the end of the disturbances were unmarked by any great action and may be described in Mr. Edwards' own words:—"We were continually kept on the move, marching and countermarching up and down the river, by the rapid movements of the masses of rebels on the opposite bank. Their numbers were so greatly superior to ours that we were obliged to be constantly on the watch, as the Ganges had become so low that fords were very numerous, and the river line was so extensive that our forces had to be divided into very small detachments. Our police-stations and outlying posts were several times attacked and destroyed, but the rebels so rapidly recrossed the river that we never could catch them though every exertion was made to do so. Those attacks became so frequent that all the police posts had to be removed out of the *khālir* to the high land. The jungle in the *khālir* was burned by order of Colonel Brind, who had been appointed to command in the district. This deprived the enemy of the power of approaching our posts in any numbers without being perceived. Not a week passed that I did not obtain intelligence of the intention of the enemy to cross and make a night attack, and large numbers of them would frequently assemble on the river bank, but either their courage failed them or these were mere demonstrations got up with the view of harassing and annoying us." Since the mutiny, with the exception of the new land settlement, the famine, the increase of irrigation and the prevalence of malarious fevers, there are no events of interest to record.

The general sanitary history of the district has already been sufficiently sketched in the introduction. Dr. Kirton, the Civil

Medical history.

Surgeon, thus summarises the local medical history:—

"The prevailing epidemic diseases are fever, small-pox, dysentery and diarrhoea; malarious fever is now (1873) the most common fatal disease amongst the people. It assumes mostly the intermittent or remittent types, and the attacks are followed by enlargements of the spleen and liver by tympanitic or dropsical swellings and colligative diarrhoea. It is due to malarious causes and occurs with greatest intensity at the end of the rainy season in August, September, and October. All classes of the people suffer from it.¹ Small-pox is common in the district, and stands next to fever as a destructive disease amongst the people. It occurs all the year through, but spreads to a greater extent during the dry hot months of April, May and June than at any other time of the year. Outbreaks of small-pox are sometimes preceded by epidemics of measles. Diarrhoea and dysentery are also common diseases amongst the people. They

¹ It is right to add that in 1817 and 1843 the district was visited by epidemics of malarious fever similar to those which devastated it from 1868 to 1873; neither of these can be attributed to the canal. In 1817 there was no irrigation from canals, and in 1843 the Ganges canal had not been commenced.

affect chiefly the lower classes of the population, who subsist on coarse food and suffer from exposure. Both affections prevail most frequently during the autumn months of the year, when the days are hot and the nights cold. Besides the disorders already mentioned, ophthalmia may be said to prevail as an endemic disease in the district. It appears mostly during the hot months of the year, and spreads amongst the inhabitants of large towns, who live for the most part in crowded houses. Repeated attacks of this disease lead in many instances to partial or total blindness. Some forms of skin disease, and scrofula to a limited extent, also prevail in the district. Mutilated and blind persons, whose deformities are to be attributed to leprosy and neglected eye-disorders, may be seen in the large towns. Cholera is not endemic in the district, but it may occur as an epidemic disease. In 1861 it visited the district, in July and August, after the famine. On this occasion its ravages were confined to towns and villages on the low ground near the river Krishna, to the west of the district. The mortality caused by it was considerable. Again in 1867, in April, cholera was brought into the district by pilgrims from Hardwar. It did not then spread to any great extent, but occurred mostly along the lines of road followed by the pilgrims."

Enough has been said regarding the spread of fever in the district both in the introduction and under the Meerut district. The figures hereafter given show the gradual increase of fever mortality since 1869, and it would appear that the disease is now as rapidly disappearing. One result of the special inquiries made by Dr. Planck in 1871 was that Government recognized the necessity for limiting canal-irrigation in places where the spring-level was close to the surface. The return to well-irrigation in such places and the prohibition of the cultivation of the high rain-crops near the town-sites have been tried with much benefit. The Government practically endorsed the opinions of the Sanitary Commissioner (G. O. No. 20A. of March 19, 1872,) and wrote:—"This disease (malarious fever) seems from a considerable induction in the present inquiry to follow canal-irrigation and to prove a connection between the constitutional depression and fever attendant on it and canal-irrigation under these unfavourable conditions." In addition to the schemes already noted as undertaken by Government for the improvement of the drainage of the swamp-affected lands, other projects are in preparation to improve the sanitary condition of the district and check, as far as possible, the evolution of malaria from the soil. With this view it is intended to clear out the beds of existing water-courses wherever they have silted up and open out new channels wherever they may be found necessary. Much improvement has been effected around the civil-station itself and towards Shamli, Salawar, and Bhainswal. During the year 1871, Government organised a special medical establishment for the relief of the fever-stricken population of this district. Eight hospital assistants were employed throughout the district

under the superintendence of Dr. Kirton, the Civil Surgeon of Muzaffarnagar, from August to October. Temporary dispensaries were opened at Budhāna, Shāmli and Jānsath: 3,122 cases were treated by these men, of which 2,240 were cured; regarding 758 cases the result is not known, 4 persons died and 110 remained under treatment at the end of the year. Still, notwithstanding this great success, the returns show 4,360 deaths from malarious fever in this district during the fever months of August, September, and October. The deaths from all other causes during the same period numbered only 1,174 cases.

The following table shows the mortuary statistics for eight years from the Sanitary Commissioner's report:—

Year.	Fever.	Small-pox.	Bowel complaint.	Cholera.	Other causes.	Total.	Percentage of death to 1,000 of the population.
1867,	514	965	755	2,051	4,855	13,766	20·1
1868,	4,191	2,345	454	223	3,792	10,950	16·0
1869,	10,541	1,074	842	166	4,467	17,090	25·0
1870,	16,855	2,966	...	160	4,901	24,882	36·45
1871,	15,507	4,332	1,811	95	617	22,362	32·76
1872,	13,794	1,097	1,372	35	559	16,857	23·92
1873,	11,932	3,129	1,296	5	788	17,150	24·81
1874,	12,955	877	1,046	2	824	15,704	22·75

“The chief epidemic cattle diseases of the district are rinderpest, foot-and-mouth disease and pleuro-pneumonia. Rinderpest (mahāmi, chera): symptoms: heat, hard breathing, great thirst, twitching of skin, discharge from eyes and nostrils, watery stools mixed with blood, great prostration. In fatal cases death ensues between three and eight days. Foot-and-mouth disease (rora, akrāo, tephora): symptoms,

fever, thirst, eruption in the mouth, swelling of cheeks, sores in the feet, inability to feed, constipation, distended stomach. Duration ten or twenty days or more. Pleuro-pneumonia (*piphri*, H., lung-disease): symptoms, fever, dry cough, difficulty of breathing, loss of appetite, distended nostrils, pain over chest on pressure, constipated bowels. In severe cases death may result in a few days, in mild cases the progress of the disease is more protracted. These diseases are considered contagious, and are known by different names in different parts of the district. Rinderpest is the most fatal disease. Foot-and-mouth disease is more common than rinderpest, but less fatal. Pleuro-pneumonia is least known. Disease amongst cattle prevails mostly in the district towards the end of the rainy season. In 1867 it was computed that about ten per cent. of the cattle of the district died from disease; but since that date sickness to any great extent amongst cattle has not occurred.

The practice of medicine as followed by the *hakims*, or native practitioners, is empirical and unscientific. They adhere to the humoral pathology of Aristotle, and maintain the doctrine that all disorders of the human body arise from heat and cold. In accordance with this notion, they prescribe their remedies, but they endeavour to keep secret the ingredient of their nostrums. In acute disorders their remedies are often inert. "Fever is treated by privation of food, followed by doses of warm water; and when the fever subsides, rice water and chirayta are given. In ophthalmia their remedies often fail, and instances of loss of sight, due to their want of knowledge in the treatment of this disease, are common. Surgery as practiced by the natives is also crude and somewhat barbarous. For external hurts the part is treated with cowdung or turmeric, or contused wounds are dressed with plasters made of opium, turmeric, and lime, which become hard and are allowed to remain on the part until the wound heals. When a limb is wounded the whole of it, instead of the blood-vessel only, is compressed to stop the bleeding. They sometimes successfully depress cataract in the eye and extract stone from the bladder, but their treatment of fractured bones is bad. The splints are slips of bamboo cut much too short, and applied so tight as to cause swelling and sometimes mortification. In large towns Jarrahs are sometimes met with who can amputate a limb, tie a blood-vessel, or excise a tumour." There is but one Government dispensary in the district, that in Muzaffarnagar itself, in which, during the year 1873, the number of in-door patients treated was 226 and the number of out-door patients was 5,949. The receipts for the same year amounted to Rs. 3,630, of which Rs. 2,618 were contributed by Government, while the expenditure amounted to Rs. 3,051. During the year 1873-74 there were 10,786 vaccine operations, of which 8,006 were successful, 1,727 were unsuccessful, and the result in 1,053 cases could not be ascertained.

The following list gives the drugs, both indigenous and imported, that are ordinarily used by the *kabiraj* or *hakim* (native practitioner of medicine):—

Native name.	Scientific or common name.	Native name.	Scientific or common name.
Abnús (ebony),	Diospyros melanoxylon.	Kath,	Acacia catechu.
Adrak,	Ginger.	Kesar (zafran),	Saffron.
Afim,	Opium.	Kharwa tel,	Mustard-oil.
Ajwáyan,	Lovage.	Kburn-ávi Ajwáyan,	Ilyoseyamus niger.
Alsi,	Flax.	Kuchila,	Strychnos nux-vomica.
Amalás,	Cathartocarpus fistula.	Lahsan,	Garlic.
Amrúd,	Guava.	Lál mircha,	Red-pepper.
Anantmúl,	Hemidesmus Indicus.	Laung,	Cloves.
Anár,	Pomegranate.	Macár,	Calotropis gigantea.
Anís-ú,	Pimpinella involucratum.	Májúphal,	Oak gall.
Aonla,	Embllica officinalis.	Mansil,	Bisulphuret of arsenic.
Astrak,	Styrax officinalis.	Methi,	Fenugreek.
Atis,	Aconitum heterophyllum.	Nagar motha,	Cyperus longa.
Babúl,	Acacia Arabica.	Nausádr,	Ammonia hydrochlorus.
Bájr,	Penicillaria spicata.	Níl,	Indigo.
Bahera,	Terminalia bellerica.	Nila tutiya,	Bluestone: sulphate of copper.
Balberang,	Myrsine Africana.	Nimak,	Muriate of soda, salt.
Belgiri,	Jégle marimelos.	Nim,	Melia azadirachta.
Binaula,	Cotton seed.	Pakánbed,	Gentiana kurroo.
Bish,	Aconitum heterophyllum.	Pán,	Piper betel.
Bol,	Balsamodendron myrrhia (seeds.)	Papita,	Strychnos Ignatii.
Buch,	Acorus calamus.	Párv,	Quicksilver.
Charas,	Cannabis sativa.	Patrápra,	Fumaria parviflora.
Chirayta,	Ophelia chirayta.	Phitkari,	Alum.
Dálchul,	Cardamoms.	Pudina,	Mint.
Dhák,	Butca frondosa (seeds).	Post,	Poppyheads.
Dhaniya,	Coriander seed.	Rai,	Mustard.
Dhatúra,	Datura alba.	Rasot,	Berberis Asiatia.
Dhúna,	Shorea robusta.	Raskapúr,	Bichloride of mercury.
Dúna,	Artemisia Indica.	Reuri ka tol,	Castor-oil.
Elwa,	Alocs.	Ritha,	Soapnut.
Gandak,	Sulphur.	Saji matti,	Carbonate of soda.
Gandabiroza,	Turpentine.	Sakmúniya,	Convolverus scammonia.
Ganja,	Cannabis sativa.	Sálib misri,	Salep.
Genda,	Tagetes erecta.	Samm-ul-fár,	White arsenic.
Ghunch,	Abrus precatorius.	Sanna,	Cassia elongata.
Gol miroha,	Black pepper.	Sankhiya,	Arsenic.
Gulkand,	Conserve of roses.	Sarifa,	Mustard-apple.
Har,	Terminalia chebula.	Sarson,	Mustard.
Hing,	Assafetida.	Shingari,	Bisulphuret of mercury (chimbhar).
Iláchi,	Cardamoms.	Sherkhist,	Fraxinus floribundus.
Imli,	Tamarind.	Shora,	Nitrate of potash.
Indráyan,	Cucumis colocynthis.	Sohága,	Borax.
Isharmúl,	Aristolochia Indica.	Sohági,	Biborate of soda.
Ispaghul,	Plantago ispaghula.	Sonf,	Feniculum vulgare.
Jan álgota,	Croton tiglium.	Soya,	Anethum sowa.
Janá hir,	Opoponax chironum.	Supári,	Acacia catechu.
Jonkh,	Leech.	Surma,	Sulphuret of antimony.
Kalá' chíni,	Piper cubeba.	Tanáku,	Tobacco.
Kahrul,	Vateria Indica.	Turoi,	Luffa acutangula.
Kakri,	Cucumis pubescens.	Teli,	Moloe cichori.
Káladáua,	Pharbitis nil.	Tili,	Sesamum Indicum.
Katár,	Camphor.	Til ki tel,	Sesamum oil.
Kaliya matti,	Chalk.	Tisi,	Linseed.
Kamela,	Rottlera tinctoria (Roxb).	Tisi ka tel,	Linseed oil.
Kandari,	Scilla Indica.	Ushak,	Dorema ammanniacum.
Kasís,	Sulphate of iron.	Zangár,	Vordigris or subacetate of copper.
Kath karaunja,	Gaultheria bonduc.		

GAZETTEER

OF THE

MUZAFFARNAGAR DISTRICT.

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AILAM, a village in parganah Kāndhla of the Muzaffarnagar district, is distant 30 miles from the civil station, 14 miles from Baraut in the Meerut district, and 12 miles from Shāmli. The population in 1865 numbered 2,700 souls, of whom the greater portion were Jāts; in 1872 there were 3,065 inhabitants. There are about 500 mud huts in the village, which is made up of two parts, the Patti Khūrd or "small division" and the Patti Kalān or "large division," each of which has a good brick-built house, the residence of the proprietor. The site and suburbs are rather low and much water collects here during the rains; the well-water is found at a depth of fourteen feet from the surface; which is about one-half the depth it stood at before the introduction of the

eastern Jumna canal now running about a mile to the west. The village is a fertile one and the people are industrious and appear to be prosperous. Ailam lies on the route from Delhi to Saharanpur between Baraut in Meerut and Shámli in this district, and has an encamping-ground. The road all through is earthen, raised and bridged, but liable to swamp in places in the rains. From Ailam to Shámli the road passes close to the left bank of the eastern Jumna canal through the lands of Kándhla, Fázilpur, Kandranli and Latúli, all highly cultivated villages. Water is plentiful and supplies are procurable after due notice.

BAGHRA or Bagra, a parganah in the Muzaffarnagar tahsíl of the same district, is bounded on the north by parganah Chartháwal, on the west and north-west by parganahs Thána Bhawan and Shámli, on the east by parganah Muzaffarnagar, and on the south by parganah Shikárpur. According to the census of 1872 this parganah had then a total area of 88 square miles and 282 acres, of which 66 square miles and 531 acres were under cultivation. The area assessed to Government revenue during the same year was 87 square miles and 388 acres, of which 66 square miles and 117 acres were cultivated, 11 square miles and 239 acres were culturable, and 10 square miles and 32 acres were barren. The parganah lies between the Káli and the Hindan; the former

Physical features.

flows southwards through the eastern portion, and the latter just outside the eastern boundary in the same direction. The central tract slopes down on either side to these rivers, and owing to its position, is cut off from artificial irrigation, and there are but few wells and tanks. This portion suffered much during the famine of 1860-61, and must always give much anxiety in seasons of drought. To the west of the Hindan eleven out of nineteen villages are watered from a distributary of the eastern Jumna canal.

The settlement of 1841 was made by Mr. E. Thornton and that of 1862 by

Fiscal history.

Mr. S. N. Martin. It was then found that cultivation had increased during the twenty years of the old settlement from 39,434 acres to 42,038, giving an increase of 2,604 acres, or 6·6 per cent. The old irrigation returns are wanting, but there is reason to believe that there has been an increase of irrigation throughout. Out of the 18,895 acres irrigated in 1862, 14,612 acres were watered from wells. Mr. Martin found the parganah sadly impoverished and the people suffering under a reasonable assessment, and though a former Collector (Mr. Edwards) considered Baghra fairly prosperous, Mr. Martin was of a different opinion, and writes:—"I cannot see how it can be well off until some means be devised for the extension of irrigation to the Duáb of the Hindan and Káli rivers." The landholders at present have to contend with the absence of water, so necessary for a sandy, arid soil, the absence of a sufficient supply of manure, the want of capital and

the desertion of cultivators.¹ Drought and the disturbances of 1857 did much to bring about the state of depression found in 1861, and the consequence was that a light assessment was found necessary. The transfers that took place during the previous settlement amounted to 16,494 acres, or over 30 per cent. of the entire area. Out of 75 estates only 18 escaped changes of some kind or other, and the average price fetched at private sales was less than double the annual revenue, a result which would seem to show that the value of property has fallen off very much in this parganah, and, as a matter of fact, the existing land-holders are much in debt. The agricultural population comprises Jâts (both Hindu and Musalmán), Tagas, Rajpûts, Brahmans, Shaikhs, Sayyids and Patháns, and there are numerous cultivating communities of Jâts who have now for the first time been fairly assessed. The Hindu communities are peaceful agriculturists, but when converted to Islâm, as many have been in this parganah, they would appear to become turbulent and idle. Mr. Martin writes² that anything like severity in the assessment would lead "to desertion, to poverty and to the increase of crime on the part of the Muhammadan Tagas, Rajpûts and Jâts, all disorderly classes."

The following statement shows the statistics of the old and new settlements and the figures given in Mr. Cadell's review in 1870 :

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Rate per acre on cultivated area.
					Irrigated.	Dry.	Total.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a p.
1848, ...	55,460	7,978	1,190	6,858	...	...	39,434	86,362	2 3 0
1862, ...	56,605	6,363	1,090	7,114	18,896	23,142	42,038	81,691	1 15 11
1870, ...	56,605	6,467	493	7,298	19,059	23,288	42,347	82,391	1 15 2

The land-revenue for 1872, according to the census papers, amounted to Rs. 82,963 (or with cesses, Rs. 95,926), falling at a rate of Re. 1-7-5 per British acre on the total area, at Re. 1-7-8 per acre on the area assessed to Government revenue, and at Re. 1-15-0 per acre on the cultivated area.³ The sum paid by cultivators to the landowners as rent and cesses during the same year has been estimated at Rs. 1,94,376.

According to the census of 1872, parganah Baghra contained 48 inhabited villages, of which 6 had less than 200 inhabitants; 10 had between 200 and 500; 17 had between 500 and

¹ The remissions, during the famine years, amounted to Rs. 7,971, and the advances from charitable funds for aid in agriculture to Rs. 2,088. Mr. Keene estimates the number of emigrants from this parganah alone at 3,687 souls.

² Mr. Cadell recommended only six estates for permanent settlement.

³ Throughout I have given the census figures and percentages as recorded and without correction.

1,000; 9 had between 1,000 and 2,000; 5 had between 2,000 and 3,000, and one had between 3,000 and 5,000. The settlement record shows 75 estates on the register in 1863.

The total population in 1872 numbered 44,164 souls (20,013 females), giving 501 to the square mile. Classified according to religion, there were 33,650 Hindús, of whom 15,088 were females, and 10,514 Musalmáns, amongst whom 4,925 were females. Distributing the Hindu population amongst the four great classes, the census shows 2,642 Brahmans, of whom 1,150 were females; 958 Rajpúts, including 351 females; 2,819 Baniyas (1,272 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 27,231 souls, of whom 12,306 are females. The principal Brahman subdivision found in this parganah is the Gaur, who number 2,605 souls. The Rajpúts are chiefly Pundirs and the Baniyas belong to the Agarwál (1,703) and Sarangi subdivisions. The other castes comprising more than one thousand members in this parganah are the Chamúr (6,145), Garariya (1,143), Juláha (1,102), Khákrób (1,887), and Ját (7,350). Representatives of nearly all the other castes common to the district are also found. Amongst the Musalmáns, Sayyids number 524, Patháns 263, and Shaikhs 9,398.

The occupations of the people are shewn in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 352 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 1,551 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 1,373 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 5,921 in agricultural operations; 2,485 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 3,129 persons returned as labourers and 534 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 998 as landholders, 13,025 as cultivators, and 30,141 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 959 males as able to read and write out of a total male population numbering 24,151 souls.

Baghra is an old Akbari parganah. The name is said to be derived from one Raja Bag or Bagra. Prithiráj, also, held possession of this parganah, of which the records in the kanúnges' possession are said to date from 935 A.D. Under the Mughals it was absorbed in the Delhi Subah. Later still a great portion of it formed part of the Sardhana *jágír*. The alterations of boundary in this parganah have been considerable, and numerous exchanges have been made at

various times with Budhána, Chartháwal, and Shikárpur. In 1816 Baghra had 37 villages. In 1840-41 one village was received from Deoband and four from Thána Bhawan, giving together a revenue of Rs. 5,360, and at the same time two villages assessed at Rs. 1,400 were transferred to Deoband.

BAGHERA, a village in the parganah of the same name in the Muzaffarnagar district, is distant 8 miles from the civil station. The population in 1872 numbered 4,158 souls. This village gives its name to the parganah within which it is situated. There is a police-station and a branch post-office here, and a market on Wednesdays.

BARÁLSI, a village in parganah Chartháwal of the Muzaffarnagar district, is distant 13 miles from the civil station. In 1865 there were 1,650 inhabitants, and in 1872 the numbers were 1,559, chiefly Rajpúts. The site is raised, especially on the east, where a natural drainage line leads to the Hindan, distant about two miles to the east; the Krishni flows at about the same distance to the west. The well-water in the upper part of the village is found at a depth of 25 feet from the surface, and in the lower part at 14 feet, rising to 8 in the rains. The Kalarpur distributary of the eastern Jumna canal furnishes water for irrigation, and a cut has been made from it to the north of the village to carry off the superfluous moisture to the Hindan drainage line already mentioned. The village has suffered much from fever and small-pox, enhanced no doubt by its filthy condition, for, formerly, dung-heaps and open water-holes were common. Barálsi possesses a good school, which is very fairly attended. The road from the civil station to Thána Bhawan passes through the village lands.

BARLA or Balár, a village in parganah Púr Ohhapár of the Muzaffarnagar district, is distant 9 miles from the civil station. The population in 1872 numbered 2,658 souls, chiefly Tagas, both Hindu and Musalmán. There is a police out-post here. The village is divided into five paltis, and its former fiscal history is given by Mr. Cavendish in Sel. Records, N.-W. P., 1822-33, p. 85, and Board's Records, 10th January, 1825, Nos. 2-4.

BASERA or Baseda, a village in parganah Púr Ohhapár of the Muzaffarnagar district, is distant 11 miles from the civil station. The population in 1865 numbered 3,839 souls, and in 1872 there were 3,832 inhabitants, chiefly Játs. Basera is a prosperous agricultural village, and when compared with others in the district is tolerably well kept. There are about 800 mud houses in the village and about 30 shops. The well-water is good and is found at a depth of 33 feet from the surface; before the introduction of the canal it was 48 feet from the surface. This village formerly belonged to the Bárha Sayyids and fell out of their possession during the Pathán rule. It subsequently formed a part of the *mukarari* of Raja Rámdayál of Landhaura, and, in 1813, the cultivating body were invested with the proprietary rights. They, however, soon broke down under their new responsibilities, and Basera passed from their hands.

BEGHARAZPUR, a small village in parganah Khátauli of the Muzaffarnagar district, is distant $6\frac{1}{2}$ miles from the civil station. The population in 1872 numbered only 415 souls, and there is a police out-post here. This village is a station of the Great Trigonometrical Survey, and lies in lat. $29^{\circ}-22'-35''$ and long. $77^{\circ}-44'-29''$, at an elevation of 865.94 feet above the level of the sea. The upper markstone of the survey station is fifty feet above the level of the ground. It stands on one of the sand mounds common in this part of the Duáb, and is close to the high road leading from Meerut to Muzaffarnagar. The small village of Begharazpur lies 0.9 miles to the north-west of the Great Trigonometrical Survey station, Jaroda to the north-north-west, 1.8 miles, and Mansúrpur to the east, 2.8 miles. The height was deduced from the spirit-levelling operations of the survey. The village is included in the drainage operations now being carried out in connection with the Muzaffarnagar drainage scheme.

BHAINSWÁL, a large village in parganah Shámli of the Muzaffarnagar district, is distant 27 miles from the civil station. The population in 1865 numbered 3,120 souls, and in 1872 there were 3,004 inhabitants. There are over one hundred substantial brick-built houses in Bhainswál, chiefly owned by Játs,

The site.

Brahmaus, and Baniyas. The site is very low and almost depressed, and lies close to and on the west of the main channel of the eastern Jumna canal. The water in the wells is found at a depth of about eight feet from the surface and in the rains is almost at the surface. There is no roadway through the village: one reaches about half way, and another all round it, and the lanes connected with them are very narrow, tortuous and uneven. To the east a canal distributary raised to five feet runs to the south, and higher up, on the west, another, and a third a little farther on. On all other sides there are extensive water-holes. Some years ago a cutting was made on the west to carry off the superfluous drainage from the Jhanderi jhíl into the Kátha Nadi. This cutting runs from north-east to south-west; it passes the site about fifty yards to the west, but requires cleaning out. In the rains, the entire village is nearly surrounded by water, and there has been much sickness from malarious fever and its consequence, spleen disease and impotency. The rain-fall, as recorded by the canal authorities has been as follows:—1866-67, 16.6 inches; 1867-68, 28.0; 1868-69, 13.4; 1869-70, 13.5; 1870-71, 39.3; 1871-72, 40.8; and 1872-73, 28.8 inches. There is some trade in sugar refining in the village and much *múnjí* rice cultivation around the site. In the centre is a mound of earth about 30 feet high, now the scene of a *mela* or religious festival, and said to contain the grave of Pír Gháib, the founder, who used to house his cattle there when all around was covered with water. (See Outcliffe's Report, App. *alii*.) There is a branch post-office here.

BHUKARNERI, a parganah of the Jánsath talúsil of the Muzaffarnagar district, is bounded on the north by parganahs Púr Chhapár and Gordhanpur, on

the west by parganah Muzaffarnagar, on the east by the river Ganges, and on the south and south-west by parganahs Jānsath and Bhūma Sambalhera. According to the census of 1872 this parganah had, then, a total area of 128 square miles and 64 acres, of which 77 square miles and 602 acres were under cultivation. The area assessed to Government revenue during the same year was 122 square miles and 435 acres, of which 72 square miles and 435 acres were cultivated, 31 square miles and 64 acres were culturable, and 18 square miles and 632 acres were barren.

Bhukarheri forms the central portion of the eastern division of the district.

General appearance.

The Ganges canal runs from north to south through the middle of the western portion of the parganah and supplies abundance of water. Formerly the distance of water from the surface was so great that irrigation was almost unknown, and the few fields that received water were almost without exception situated to the south of the parganah. The depth of water from the surface, seldom less than 60 feet, renders well-sinking difficult and expensive, and in the south-east corner of the parganah the absence of wells has prevented the effectual location of tenants in several estates. Equally with the depth of water, the prevalence of sand is characteristic of the parganah. The sand-ridges run with marked regularity from north to south and are so numerous that seven distinct lines can be traced through the upland, which in no place exceeds ten miles in breadth. The highest ridges are on the west and are continuations of the Pūr Chhapār sand-hills: to the east they are lower and more level, and are only left unirrigated because they are poor, and until more careful cultivation brings them to the state in which irrigation will prove remunerative. On either side of the sand, the land slopes down in sandy loam to the loamy patches in the depressions between the ridges. The position of these sand-ridges has mainly determined the distribution into circles for the purposes of assessment. Mr Cadell made three circles in the uplands; the third and worst contained the villages amongst the high western sand-hills cultivated by careless Sayyids and thriftless Gújars, and nine villages along the upland bank overlooking the Ganges valley occupying a tract about seven miles in length by two to three miles in breadth. From Shukartár to the southern boundary of this latter tract there is only one well in the upland which supplies drinking water for two villages. The other petty hamlets are dependent on the canal distributaries, and on wells in the Ganges valley when the canal is closed. Under such circumstances, it is not remarkable that farming is careless, and the cultivators comprise resident Gújars and so-called Chauháns and tenants of other classes only from distant villages. The second circle of villages comprises those lying to the west of the canal and to the east of the third of the western lines of sand-hills. The three ridges of sand to the west of the parganah run close together, and except to the extreme north there is little good land between

them, but to the east of the third ridge, the land slopes away into a tolerably fertile plain through the midst of which runs the Ganges canal. To the south of the parganah the lauds around Tisha, the five estates in the extreme south, Bhunkarheri in the north-east, and five other villages in its neighbourhood have been placed in the first class. The estates to the east, west and north of the first circle and to the east and west between the first and third circles have been placed in the second circle. Although in several instances defective irrigation has been the cause of placing otherwise good estates in the second-class, there are in most cases other and sufficient reasons for altering the classification followed in 1841.

The villages bordering upon the *khádír* of the Ganges possess a strip of good land, but gradually deteriorate as they approach the ravines of the up-land ridge. The ravines which break the descent from the uplands to the edge of the *khádír*. "Even in the inhospitable ravines of the Ganges, villages may be found dotted at intervals of two or three miles; though, in these wild situations, the shade of trees is almost unknown, pure water is scarce, and the children are exposed to constant risk from the incursions of wolves. The pastures of the *khádír* are as accessible on the one side as the high arable table-land on the other, and the inhabitants can combine their more congenial occupation of herding cattle with the enforced task of agriculture. By numerous passes winding through the openings in the upland bank the lowlands of the Ganges itself is reached which exhibit a far stretching level tract of a rich brown, variegated here and there with green patches and shining streams, the whole tipped by the broader line of the Ganges. Such is the appearance which the *khádír* wears in the cold season. Trees are scarce, and by this time of year the grass has lost its verdure and put on the brown tint which characterises the whole tract. Only by rising crops or by reedy patches are spots of brighter colour presented to the eye. The soil, though not so deep or strong as that of the high land, possesses the vigour of freshness, as new land is being brought under the plough every year, and the disproportionately small number of inhabitants, occasioned by the difficulty of inducing them to settle, allows of an almost annual change in the land selected for cultivation. The crops are, therefore, on the whole, good, though the numerous risks to which they are exposed from inundation, the ravages of wild animals, and the unsettled habits of the cultivators, often render the returns from these estates a mere matter of speculation." The Ganges approaches to within a few hundred yards of the ravines about the centre of the parganah and divides the *khádír* into two portions. The southern has been described above. The northern portion contains the great Jogawála jhil and the tracts affected by percolation from the Soláni river.

The settlement under Regulation IX. of 1833 of this parganah was made by Mr. Elliot in Meerut. The revision of 1863 was effected by Mr. C. Grant, but when the result of a

further investigation made with regard to the question of a permanent settlement became known, Mr. Grant's assessment was condemned as unduly low, and Mr. A. Cadell was appointed to revise the settlement of the upland portions of the parganah. His work was completed in 1874. The following statement shows the statistics of area of the three revisions :—

	Total area.	CULTIVATED.			Culturable.	Revenue-free.	Barren.	Revenue.	Rate on cultivated area.
		Wet.	Dry.	Total.					
1841.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a. p.
Uplands, ...	62,811	162	34,668	34,830	14,778	2,091	11,313	48,331	1 6 6
Lowlands, ...	14,833	...	3,118	3,118	9,372	...	2,343	4,245	1 5 9
Total, ...	77,644	162	37,786	37,948	23,950	2,090	13,656	53,176	1 6 8
1863.									
Uplands, ...	64,491	25,349	18,844	44,193	6,716	2,088	11,494	55,951	1 4 3
Lowlands, ...	13,426	21	3,318	3,339	8,320	...	1,767	4,609	1 6 1
Total, ...	77,917	25,370	22,162	47,532	15,036	2,088	13,261	60,560	1 4 5
1875.									
Uplands proper, ...	59,743	23,917	21,579	45,496	3,395	2,034	8,768	...	...
Lowlands, ...	4,834	...	775	775	2,570	...	1,489	...	...
Total, ...	64,577	23,917	22,354	46,271	5,965	2,034	10,257	74,311	1 9 8
Lowlands, ...	13,426	21	3,318	3,339	8,320	...	1,767	3,750	1 1 1
GRAND TOTAL, ...	78,003	23,938	25,672	49,610	14,285	2,034	12,024	78,061	1 9 2

Mr. Cadell's revision of 1872 extended to the uplands only. The figures for 1875 distinguish the lowlands attached to the upland villages on the edge of the *bangar* and the total area of 64,577 acres is the area dealt with in this notice. The lowland area of 13,426 acres refers to villages lying wholly within the *khaddir*. The soils of the upland area at Mr. Cadell's revision are given at page 351.

In the same area, the *kharrif* crops occupied 58·7 per cent. of the total area, and amongst them sugar-cane covered 5·5 per cent. of the same area; cotton, 3·7; *munji* or fine rice, 5·7; *urd*, 10; and *bdjra*, 18·7 per cent. In the *rabi*, wheat covered 22·3 per cent. of the total area besides 1·5 per cent. as a *dofasli* or extra crop; barley, 12·7; gram, 2·7; and *gojai* or mixed barley and wheat, 3 per cent. In this parganah, the *munji* variety of rice is treated as quite equal to sugar-cane in importance, and where cash rents are taken, land sown with *munji* often brings one-third, a higher rent than that which is paid for land which is ordinarily planted with cane. *Munji* is followed by cane and cotton in rotation, and in the cold-weather

by wheat and gram, so that it clearly occupies the best land. In 1841, sugar-cane occupied 4 per cent. of the cultivated area; cotton, 2; wheat, 20; and barley, 10 per cent. During the currency of the past settlement (1841-60) land sold at very low rates, owing, it is said, to a combination amongst capitalists, but since 1863 prices have ruled at from 25 to 33 years' purchase on the land-revenue. Between 1842 and 1870, the transfers by private sale amounted to 19·4 per cent. of the total area, by public sale to 24·2 per cent., and by mortgage to 16·3 per

Transfers.

cent., details of which have been given in the district notice. Throughout, the tendency has been to accumulate the land in the hands of a few owners. During the past thirty years both cultivation and irrigation has increased enormously: the former by 11,493 acres, or 33 per cent., and the latter by 24,444 acres, or 152 times as much as was watered before the opening of the canal. And this increase has taken place in the uplands alone; in the *khádír*, irrigation is unimportant and has fallen off rather than increased. Much of the increase in cultivation is due to the large amount of land lying untilled in 1840, owing to the great drought of 1837-38. Here, however, a drought no longer means starvation, less of cattle and dispersion of cultivators, but a season of large profits and increased agricultural prosperity, nor does it involve any serious diminution of the cultivated area.

Rent-rates.

The rent-rates assumed by Mr. Cadell for each of his circles were as follows :—

		IRRIGATED.			Dry.		
		Bárah.	Loam.	Sandy loam.	Loam.	Sandy loam.	Sandy.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1st circle,	...	12 0 0	5 13 0	4 2 0	3 6 0	2 0 0	1 5 0
2nd „	...	9 0 0	5 1 0	3 6 0	3 0 0	1 11 0	1 0 6
3rd „	...	...	3 12 0	2 10 0	2 4 0	1 5 0	0 13 6

These rates slightly modified for the estates cultivated by Sayyids and Gújars and applied to the soil areas gave a rent-roll of Rs. 1,48,385 for the uplands. The assumed rental in 1841 was Rs. 73,958, and in 1863 was Rs. 1,31,232. The full rates, in 1872, without regard to the caste or character of the tenants, give a rental of Rs. 1,58,182. These figures would point to a revenue at half assets of between Rs. 75,000, and Rs. 80,000 and the revenue actually assessed amounted to Rs. 74,311. The settlement of the uplands for a series of years has been sanctioned and came into force from 1873-74, while an annual settlement for the fourteen estates in the *khádír* has been recommended for adoption. On the whole Mr. Cadell thinks that had net canal irrigation been extended to this parganah no increase over the demand of 1841 could be made, for no increase in the population or cultivation could have been counted upon. He would

estimate the increase of the assets due to the Ganges canal in Bhukarheri at Rs. 50,000, being at the rate of Rs. 2 per acre; one-half of which has hitherto gone into the owner's pocket, but now that an owner's rate has been imposed, this will form a portion of the regular revenue due to canals. Six villages lying in the *khádir* to the north and east of the Soláni have been incorporated with the *choel* circle of Gordhanpur, and the assessment of the remaining *khádir* estates has been lowered from Rs. 4,609 to Rs. 3,750, or by Rs. 859. The parganah formerly belonged, for the most part, to the Sayyids of the Chhatrauri clan, who rose to eminence on the ruin of their brethren of the Tiharpuri branch in the reign of Muhammad Shah. The southern portion of the parganah was no doubt an early acquisition of the clan, but until a comparatively recent period the Játs and Tagas held their own in the north, and in this portion of the parganah the Sayyids claimed as purchasers of the rights of others. In the days of anarchy their position in the north was precarious, and the Játs of Bhukarheri and Belra attained to considerable power under the Patháns. Although, on the British occupation, the Sayyids recovered all or near all their old possessions, they were too much weakened to retain them, and even before 1803 many estates had left their hands. Of the 49 estates in the uplands nine were held by others than Sayyids in 1803, and within eight years of the conquest three estates were sold to the money-lenders of Landhaura for less than one year's revenue; and one estate, now valued at Rs. 60,000, was sold to the Sayyids of Jauli at the same time, and for the same cause, for Rs. 300; a fifth estate was mortgaged and was never recovered, and three more estates were mortgaged. By 1829-30 capitalists had gained a footing as mortgagees in nearly every Sayyid village in the north and west of the parganah. To the south, the powerful *mukararidárs* were able to trample out the rights of their poorer brethren, and, on the whole, the tendency continued to accumulate the land in the hands of a few persons.

In many instances the cause for this state of affairs can be traced to the pressure of the Government demand. Mr. Cadell writes:—"A comparison of the assessments, village by village, during the second settlement, 1808-09 to 1810-11, with those fixed by Mr. Thornton in 1841 leads me to think that

in 15 estates out of the 49 now in the parganah the earlier assessments must have been heavy, and in 10 of these extremely heavy. One of these estates was transferred before the beginning of our rule, four within eight years of its commencement and three more within twelve, while in all the rest, with the exception of two, transfers more or less complete took place before 1237 fasli (1829-30); the bulk of the transfers however, especially in more recent times, have been due to causes very different from the incidence of the Government demand. It is true, no doubt, that in a dry parganah, in which well irrigation was almost

unknown, and in which, therefore, before the opening of the canal the effects of constantly recurring droughts were felt in their full severity, a moderate assessment might in bad seasons, or after a succession of bad seasons, press most heavily upon the proprietary body. But independent of all other considerations, the reckless extravagance of Sayyid owners was of itself quite sufficient to occasion the numerous transfers of property which have taken place in the parganah, and transfers still continue notwithstanding the extremely moderate assessment now in force, and will no doubt go on among the comparatively few petty Sayyid landowners that are left. But whatever may have been the faults of the earlier assessments, there can be no doubt that for many years this parganah, looked upon as a whole, has been treated with marked consideration. Up to 1841 the revisions of the settlement have been merely a redistribution over the various estates of the old demand of the parganah, and even the enhanced revenue of 1841 involved an increase of little more than ten per cent. over that fixed more than 30 years before. Since Mr. Thornton's settlement the Ganges canal has been constructed and a complete change has been made in the circumstances of the tract, which can hardly be said to have been adequately represented by the increase of Rs. 7,750, or 16 per cent., made to the Government demand of this parganah at the settlement in 1863." In the upland portion of the parganah the assessment of 1841 was, on the whole, a fair and moderate one, and the increase in 1863 was only on the old *mukarruris* which had previously been held on merely nominal assessments.

The previous assessments of portions of the parganah have been collected by Mr. Cadell and exhibit some curious anomalies; Previous fiscal history. they were as follows:—

Number of estates.	1206 fash. 1796-99.	1207 fash. 1799-1800.	1208 fash. 1800-01.	1215-18 fash. 1808-10.	1219-1222 fash 1811- 1814.	1233-37 fash 1825-29.	1243-47 fash 1835-39.	1248-63 fash 1841-60.	1270-80 fash 1862-72.	1872.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
32 estates, ...	16,504	18,651	11,267	31,106	30,726	29,305	29,431	33,007	38,273	50,981
6 ditto, ...	2,167	3,752	1,344	4,995	4,995	5,012	5,035	5,423	5 98	7,653
7 ditto, ...	...	...	...	1,904	3,044	4,387	4,237	5,736	7,050	9,348
Total 45 estates,	...	...	...	38,005	38,765	38,704	38,703	44,166	51,303	67,982

If the statements of the revenue before the British rule can be trusted, the enhancement effected at the first assessments was rapid and considerable and accounts in some measure for the transfers which followed the conquest, and for the inability of succeeding officers to raise the revenue. Some of the earlier assessments are perfectly incomprehensible: thus Rahmatpur paid sixty years ago nearly double what was deemed sufficient in 1841 and even in 1863, when it, a previously dry estate, had become fully irrigated. Other estates which secured large reductions thirty and forty years ago will only now, after

the great improvement which has taken place, again attain to the revenue which they paid at the very beginning of our rule, whilst others of the best Ját townships have paid all along and continue to pay still the high assessments with which they came under the British Government. Here as elsewhere, poor and outlying estates have profited by the general security to improve and have mainly yielded the increase to the revenue shown above. The enormous revenue paid by entirely unirrigated estates shows, in Mr. Cadell's opinion, that population, bringing with it high farming, has a greater effect upon rents than any rise which has taken place in prices. Notwithstanding the increase in irrigation many estates pay little more rental than that which was collected from them sixty years ago, and not two-thirds of the assessment, and all through the eastern portion of the district, backward estates are making up with the best villages, while the best estates appear to remain almost stationary.

According to the census of 1872, parganah Blukarheri contained 54 inhabited sites, of which 16 had less than 200 inhabitants; 14 had between 200 and 500; 13 had between 500 and 1,000; seven had between 1,000 and 2,000; three had between 2,000 and 3,000; and one had between 3,000 and 5,000. The settlement record shows that there were 70 estates in 1863, of which 53 were inhabited and 17 were uninhabited.

The total population in 1872 numbered 39,573 souls (17,887 females), giving 309 to the square mile. Classified according to religion, there were 29,376 Hindús, of whom 13,097 were females and 10,197 Musalmáns, amongst whom 4,790 were females. Distributing the Hindu population amongst the four great classes, the census shows 1,723 Brahmans, of whom 747 were females; 1,263 Rajpúts, including 575 females; 1,303 Baniyas (566 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 25,087 souls, of whom 11,209 are females. The principal Brahman sub-division found in this parganah is the Gaur, numbering 1,723 souls. Gaur Rajpúts (1,255) predominate, and amongst the Baniyas, Agarwáls (1,231) and Saraugis are the most numerous. The other castes having more than one thousand members in this parganah are the Kabár (1,537), Chamúr (7,974), Khákrob (1,222), Ját (4,629), and Gújar (1,383). Amongst the Musalmáns, Shaikhs numbered 8,306 souls and Sayyids 1,516. A great part of the land at the time of settlement belonged to the Sayyids (25 estates); 14 estates to Mahájans besides shares, 5 to Játs, 4 to Shaikhs, one to Tagas, and 3 to Bohras. All, except the last, are hereditary proprietors. The cultivating population comprised Játs in 19 villages, Gújars in 10, Chauháns in 7, Jhojhas in two, Banjáras in two, and a mixed population in the remainder.

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the
 Occupations. male adult population (not less than 15 years of age),

294 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 1,920 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 882 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 5,669 in agricultural operations; 1,804 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 2,903 persons returned as labourers and 245 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 565 as landholders; 14,447 as cultivators, and 24,561 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 841 males as able to read and write out of a total male population numbering 21,686 souls. At the revision of parganah boundaries in 1842, the now parganah was made up of 40 original estates: five from parganah Muzaffarnagar, one from Jauli, two from Pár Chhapár, one from the Meerut district, and fourteen from Bijnaur. Subsequently the eroding action of the Ganges gave five more estates making 70 in all.

BHUKARHERI, a large village in the parganah of the same name in the Muzaffarnagar district, is distant 15 miles from the civil station. The population in 1865 numbered 4,649 souls, and in 1872 there were 4,697 inhabitants. The village of Bhukarheri has a small brick-paved bázár and a few good brick houses. There are four good wells having water at a depth of 40 feet from the surface with a depth of 31 feet in the wells. Around the site there are some large excavations which are used as receptacles for refuse, and some ruined mud huts serve a similar purpose. There is no external trade, the bazar being only sufficient to supply the wants of the small neighbouring agricultural communities. There is a road connecting the village with Barla and Deoband to the north-west and with Bijnaur across the Ganges. Markets are held here every Monday.

BHŪMA-SAMBALHERA, a parganah of the Jānsath tahsíl of the Muzaffarnagar district, is bounded on the north by parganah Bhukarheri, on the west by parganah Jānsath, on the east by the Ganges river, and on the south by the Meerut district. According to the census of 1872 this parganah had, then, a total area of 131 square miles and 320 acres, of which 70 square miles and 166 acres were under cultivation. The area assessed to Government revenue during the same year was 130 square miles and 320 acres, of which 69 square miles and 173 acres were cultivated, 35 square miles and 457 acres were culturable, and 25 square miles and 231 acres were barren.

Bhūma-Sambalhera may be divided into two tracts :¹ the uplands and the twenty-seven estates lying in the *khádīr* or valley of the Ganges. The upland tract is, perhaps, the most continuous tract of sand in the whole district. One broad belt of sand runs down from the north, and branching out into two lines close to the town of Mírānpur, runs southward until the sand plain is reached which extends in an unbroken line from the sand-hills three miles east of Muzaffarnagar, to the south-eastern boundary of the district. This sand plain enters this parganah from the north-west, and nowhere throughout its whole length is it more extensive. For the most part, however, the sandy area is level, and by slow degrees much of it will improve. And if the parganah with nearly half its area sand and nearly one-fourth more sandy loam is in this respect inferior to its neighbours, there is no tract in the district which can boast of finer land than the really good soils of the better villages; and there is none in which, notwithstanding the want of irrigation, the produce is better, the rent-rates higher, or the people more industrious and prosperous. It is a commonly expressed matter of wonder among the Sayyid landholders that their ancestors should have chosen for their home so unfertile a corner of Hindustan, but they may console themselves with the reflection that the unenviable character of their possessions has probably retarded their inevitable displacement by richer men. The wealthy purchasers who compete to buy land in the neighbouring parganahs have as yet shown no desire to extend their acquisitions in this direction, and the principal transferees of Sayyid proprietary rights are small money-lenders and traders, for the parganah contains no large capitalists of its own, although its principal town, Mírānpur, is a "*mandi*," or entrepôt of trade, where the products of the hills and the Tarāi and the rice of Rohilkhand are exchanged for the salt of the Panjāb and the grain of the Duāb. It is not, however, necessary to account for the settlement here of the Sayyids by supposing any deterioration of soil or extension of sandy area of late years, for their destination was decided, in the first instance, more by necessity than by choice. When they came down from their temporary home in Patāla they had not attained the power and distinction which afterwards fell to their lot, though even then their employments, actual or prospective, about the imperial court rendered necessary a residence near Dehli. They had neither the strength nor the influence to eject the powerful tribes of Rajpūts, Jāts, Gújars, and Mewatis who held the more convenient localities. In their present decadence and poverty they are mere burdens on the land, which is ill-qualified to support them. Nor are their shortcomings reduced in most cases by the industry and energy of the cultivators;

¹The upland estates have a portion of their area in the *khádīr* aggregating some 2,728 acres out of the 48,928 acres constituting the uplands of this notice which is chiefly based on the settlement reports.

In the southern portion, or old Bhúna parganah, there is certainly a fair admixture of Játs and Jhojhas; but to the north, in what was the Sambalhera parganah, the tillers of the soil are nearly all of the Gújar class. Some of these communities have only barely recovered from the heavy fines imposed on them for their disorderly conduct during the disturbancos, and none combine both the means and the inclination to cultivate properly.

“The khádír, or alluvial tract which borders the right bank of the Ganges from the Saháranpur district to Garhmuktesar, in the Meorut district, is here,” writes Mr. Grant in 1863, “from four to six miles broad. To the south it has received considerable accessions from the Bijnaur district by the change of course of the Ganges. At all times, the treacherous swamps and quicksands, the distance of villages from each other, the deficiency of a tenacious earth and the expense of bricks for houses, the constant inroads of wild animals on the crops, and, above all, the discomforts and dangers of the rainy season, will stand in the way of the colonization and development of this tract. The only class who disregard these evils and inconveniences are the Bijnaur Chauháns, who are easily attracted by advances of money and favourable terms of rent, but as readily disappear on the first appearance of pressure from the landlord. They are, even, too free from that hereditary feeling of attachment to the soil which is such a millstone round the neck of the upland cultivator, and it is only their unsuitability to a more settled mode of life which retains them in this neighbourhood. Though many of them are still to be found, their numbers were considerably diminished in the mutiny, and the southern part of the *khádír* is now much deserted. Three large villages were, among others, destroyed and looted by turbulent bands of Gújars. Though careless farming and an easily exhausted soil have always prevented anything like continuous cultivation in these estates, there was once a large, though scattered, area under the plough, and growing prosperity was teaching the villagers settled habits. But many of them disappeared, others were driven away, and the destruction of the accumulated profits of years has broken the tie which might have induced the remainder to cling to their homesteads.”

“The extraordinary increase in the number of wild pigs and deer since the disarming of the country is an evil which even strong measures will not quickly counteract, and the zamíndárs complain, with what justice cannot be said, that the fertility of the soil has been impaired by the recession of the Ganges to the eastward. Formerly it used to flood the whole of this tract, and its waters, going off rapidly, left behind them a fertilizing deposit. It is, at least, certain that the rice produced on the river bank is finer than that grown further from it. At present, almost the only returns from these estates are derived from thatching grasses. Of these, ‘*panni*,’ a broad-bladed soft grass, is the best. It is also used for making brooms. The

other kinds are 'patel' a fine needle-shaped soft grass, with a high stalk growing from the middle of each tuft; and the universally known 'kás.' The tall central stalks of the 'sarkora,' called *bhind*, are used instead of bambus for thatching huts; string for beds is also manufactured from them. But it is a universal complaint that of late years thatching grass has not been so much in request as formerly. The reason is by some stated to be the prevalence of the custom of tiling in the cantonment of Meerut since the mutiny, while others attribute the slack demand to the universal growth of high grasses along the canal banks. Be the cause what it may, the fact is believed to be certain, and, except in lands lying on the river immediately opposite Bijnaur, these grasses do not generally meet with a ready sale. A few rupees are also made by granting permission to dig saltpetre. The central and northern portions of the *khaddir* escaped with comparative impunity from the forays of the Gújars. The large estate of Husainpur contained, among other villages, a Gújar settlement known as Siáli, the inhabitants of which attacked and partially looted Husainpur, the principal place in this neighbourhood, and a halting-place for merchandize on the Meerut and Bijnaur road. The northernmost estates, always the best in this tract, have, however, thoroughly regained their former prosperous position."

The settlement under Regulation IX. of 1833 was made by Sir H. M. Elliot in 1835. The revision in 1863 was made by Mr. C. Grant, whose arrangements were disallowed, and Mr. A. Cadell was entrusted with the duty of "overhauling" the entire assessment of the upland villages, which he completed in 1873-74. The following statement gives the statistics of their revisions:—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a. p.
1835, ... { Uplands, ...	48,715	8,700	83	12,375	970	26,587	27,557	35,413	1 5 2
1835, ... { Lowlands, ...	30,019	5,763	...	19,060	...	5,196	5,196	10,780	2 1 2
1835, ... Total, ...	78,734	14,463	83	31,435	970	31,783	32,753	47,193	1 7 1
1848, ... All, ...	81,274	16,657	97	33,295	...	...	31,255	37,444	1 3 2
1863, ... { Uplands, ...	42,863	9,210	80	5,302	8,125	26,146	34,271	35,719	1 0 8
1863, ... { Lowlands, ...	31,322	3,626	...	20,752	58	6,886	6,944	9,987	1 7 0
1863, ... Total, ...	80,185	12,836	80	26,054	8,183	33,032	41,215	45,706	1 1 9
1872, ... { Uplands, ...	48,911	9,375	80	2,812	9,451	27,193	36,644	45,856	1 4 1
1872, ... { Lowlands, ...	31,322	3,626	...	20,752	58	6,886	6,944	7,042	1 0 3
1872, ... Total, ...	80,233	13,001	80	23,564	9,509	34,079	43,588	52,898	1 3 9
1875, ... { Uplands proper, ...	46,195	8,192	52	1,659	9,497	26,795	36,292	...	...
1875, ... { Lowlands, ...	2,728	1,196	...	1,225	2	306	307	...	...
1875, ... Total, ...	48,923	9,388	52	2,884	9,499	27,101	36,599	45,856	1 4 1
1875, ... Lowlands, ...	31,322	3,626	...	20,752	58	6,886	6,944	7,042	1 0 3
GRAND TOTAL, ...	80,245	13,014	52	23,636	9,557	33,986	43,543	52,898	1 3 8

The figures of 1872 are those of the rent-rate reports and those of 1875 are from the final corrected returns, and distinguish the *kharif* area of the upland estates from the uplands proper. As already noted, the marked peculiarity of the parganah is the prevalence of sand, which in the uplands alone covers 47·7 per cent. of the dry area, and in the division of the parganah into circles for the purposes of assessment, Mr. Cadell made due reference to the soils,¹ the facilities for irrigation, the state of cultivation and the character of the cultivators. His first circle comprised 16 villages, of which ten are mainly cultivated by Jāts, one by Jhojhas, and the remaining five adjoin Mírānpur. Jāts, also, predominate in nine of the fourteen villages of the second circle, and Gújars in two, and in the third circle of 12 villages Gújars cultivate eight and are, as a rule, tolerably orderly and, for their caste, industrious. The crop statement for the year 1872 gives the *kharif* area as 59½ per cent. of the total cultivation, and in it cane covered 6·7 per cent. of the entire cultivated area; cotton, 3·2 per cent.; fodder crops, 6·5; *urd*, 7·3; *moth*, 11·2; and *bājra*, 16·7 per cent. In the rabi, wheat occupied 16 per cent. of the total area under the plough; gram, 3·3 per cent.; *gojari* or mixed wheat and barley, 9·7 per cent.; and barley, 9·2 per cent. Another element considered in the assessment was the area of land transferred and the price it fetched. Between 1842 and 1871, 18,133 acres, amounting to 22·7 per cent. of the total area, were transferred by private sale; 10,325 acres, or 13·1 per cent., by public sale; and 16,227 acres, or 20 per cent., by mortgage, giving a total of 55·8 per cent. of the total area. In the upland the price of land now averages about twelve times the revenue and has lately been higher at public than at private sales, and that this rate is lower than in other parganahs is chiefly due to the fact of the high assessment of the best villages, and that the other villages are either dry or are insufficiently irrigated.

In former days, irrigation was practically unknown, and in the north or

Irrigation.

Sambalhora portion and the villages received from Bhukarhori, irrigation could only have been practised from masonry wells. To the south-west, however, in a few estates of Bhūma and in those transferred from Hastinapur, the soil is firm and earthen wells are practicable, and the irrigated area reached as much as 1,200 acres in 1835. Though the canal has done much for the parganah by means of the Bhukarhori rajbaha, it is as yet confined to the west and south, and some of the very best land has been left dry. Indeed the canal has done less for this than for any other upland parganah in the Ganges-Kāli Duāb. The Anúpsahar branch of the canal runs at so low a level that only one small distributary is given out from it, but recent extensions will, it is hoped, fully provide for the wants of the whole parganah. In 1872-73 irrigation from canals, according to departmental returns, only reached 3,035 acres in this parganah. Still there can be no doubt

¹ The soils are given at page 351.

but that irrigation has added very much to the productiveness of the tract, while in those estates still dry, the slow increase of population and the advance in value of agricultural produce have improved the condition of the parganah. The deterioration of the Ganges *khádir* has induced the cultivators to devote all their energies to the upland estates, which, secure from flooding and the incursions of wild animals, form a fitter investment for capital and labour than the once fertile but now comparatively worthless valley estates.

In the upland portion of the parganah, cultivation has increased from 27,557 acres in 1835 to 36,599 acres in 1872, and has absorbed

Cultivation. not only a great portion of the fallow of the settlement in 1835, but has made a substantial inroad on the waste to the extent of 8,000 acres, or nearly 30 per cent. Any further progress in this direction must be slow, as nearly all the land now entered as culturable waste is either the worst sand or marsh-affected fields in the portions of the upland estates which slope down into the *khádir*. The deterioration of these latter lands is marked, and is apparently due to the improvement of the uplands, which has attracted to itself all the more industrious classes of cultivators, leaving the *khádir* proper to the migratory, thriftless *Chauháns*. Both these causes, with the addition of percolation from the canal, have operated to injure those villages situated on the edge of the upland which also possess a portion of the *khádir*.

The rent-rates assumed by Mr. Cadell for his circles were as follows :—

		IRRIGATED.			Dry.		
		Barah.	Loam.	Sandy loam.	Loam.	Sandy loam.	<i>Bhúr</i> or sand.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1st or Ghataen circle	...	12 0 0	6 6 0	4 14 0	3 12 0	2 7 0	1 8 0
2nd or Sambalhera ...	...	7 14 0	5 4 0	3 12 0	3 3 0	2 0 0	1 2 0
3rd or Nizámpur ...	...	...	4 8 0	3 3 0	3 0 0	1 11 0	1 0 6

These rates applied to the soil areas give a rental for the uplands of Rs. 95,246, or Rs. 40,470 in excess of the rental of 1835 and Rs. 23,950 in excess of the rental of 1863. Correcting this rental for the higher rates in some villages the increase may safely be set down at Rs. 30,000, of which about Rs. 10,000 may be ascribed as due to increased cultivation, Rs. 14,000 to increased irrigation, and the remainder to the rise in prices. The demand indicated by this rental was Rs. 47,633, while Rs. 45,856 was actually assessed, giving an increase of Rs. 10,137 over the assessment of 1863. The *khádir* villages were assessed at a reduction of Rs. 2,945, or Rs. 7,042 per annum, from 1281 *fasl* (1873-74 A.D.).

According to the census of 1872 parganah Bhúma-Sambalhera contained 46 inhabited sites, of which 10 had less than 200 inhabitants; 14 had between 200 and 500; 12 had between 500 and 1,000; seven had between 1,000 and 2,000; one had between 2,000 and 3,000, and one had between 3,000 and 5,000. The only town is Mírúnpur with 5,924 inhabitants. The settlement record shows that there were 82 estates on the register in 1862. The total population in 1872 numbered 35,990 souls (16,602 females), giving 275 to the square mile. Classified according to religion, there were 27,190 Hindús, of whom 12,421 were females, and 8,798 Musalmáns, amongst whom 4,181 were females, and there were two Christians. Distributing the Hindu population amongst the four great classes, the census shows 2,047 Brahmans, of whom 937 were females; 488 Rajpúts, including 194 females; 2,492 Baniyas (1,203 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 22,163 souls, of whom 10,087 are females. The principal Brahman subdivision found in this parganah is the Gaur (1,760). The Rajpúts belong to the Gaur clan (414) and the Baniyas to the Agarwál (2,213) and Mahesri subdivisions. Amongst the other castes, the following show more than one thousand members in this parganah:—Chamárs, 7,058; Khákrobs, 1,292; Játs, 3,154 and Gújars, 2,140. Amongst the Musalmáns, Shaikhs number 7,274 and Sayyids show 1,277 souls. The distribution of the area amongst the land-owning classes has been given in the district notice as well as that of the cultivation amongst the agricultural classes.

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 451 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 1,587 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 908 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 5,036 in agricultural operations; 1,660 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 2,235 persons returned as labourers and 289 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 708 as landholders, 13,147 as cultivators, and 22,135 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 743 males as able to read and write out of a total male population numbering 19,388 souls.

Bhúma was an old Akbari parganah, and in the time of Akbar the village of Bhúma was one of the chief villages of the Bárha Saadát. For a short time, during the British occupation,

it was eclipsed by the Gújar village of Bahsúma, and in 1842 the parganah of Bhúma, which had in 1816 only 13 villages, was added to the Muzaffarnagar district and joined to the old Akhari parganah of Sambalhera, which in 1816 comprised 16 villages. At the close of the re-arrangement of boundaries in 1855 the new parganah was re-constructed as follows:—From parganah Bhukarheri, 14 estates; from Janli, 2; from Khátauli, 4; from Bhúma, 40; from Sambalhera, 11; from Hastinápur, in the Meerut district, 5; and from Bijnaur 10, making altogether 76 estates. In 1859 two more villages were added from Bijnaur by the eroding processes at work on the Ganges; one has since been swept away, one has been added by reclamation, and four by partition, giving 82 estates in 1862.

The parganah owned almost entirely by Sayyids of the Chhatrauri branch of the Bárha Saadát shared the fortunes of that family, and during the early half of the past century attained to a great degree of prosperity. Though it contains Majhera, the earliest settlement of the Kundliwál branch, these have had little influence since the reign of Akbar, and by degrees the Chhatrauris overran the parganah, and with the exception of five Kundliwal and two Pathán villages, the whole parganah fell into their hands. During the latter half of the eighteenth century, much of their possessions passed away into the hands of Nain Singh, the Gújar chief of Bahsúma, and Rámdayál of Landhaura, and during the anarchy that then prevailed many of the Sayyids fled to Rohilkhand and Oudh and left their villages to the Gújars, the Pathán raiders from the east of the Ganges, and the Sikh marauders from the west of the Jumna. During the earlier years of British occupation, Nain Singh held nearly the entire parganah in farm, but on his death the villages were settled with the owners, and, in this manner, the Sayyids were restored. Year by year, too, the Sayyids who had emigrated returned, but some, unfortunately, after so long an interval that they never recovered the rights in the land which their ancestors had relinquished. Since the occupation, transfers have been numerous and, like as occurred in Khátauli and Muzaffarnagar, have been mainly due to the fact that the Sayyids have not been able to proportion their expenditure to their altered circumstances. The assessment, too, in such a dry tract pressed heavily in bad seasons and in some cases was very high, but the final enhancement does not seem to have been made until the estates had passed out of the hands of their Sayyid owners. In 1841, the Sayyids had only suffered severely in 16 villages, and in seven of these the transfers had been by mortgage, and they still possessed three-fourths of the parganah.

Notwithstanding the leniency of Sir H. M. Elliot's assessment in 1835-37, the Sayyid losses during its currency have been almost as numerous as during the period from the British occupation to 1835. Sayyid extravagance, here as

elsewhere, has led to these transfers and the loss of half the parganah; still the wealthier Sayyid families have been the chief purchasers, and next to them come the Ját cultivating communities, and if these latter had the power of combination in addition to the unflagging industry which they possess, they might have become owners of all the best estates which have left the hands of the Sayyids; as it is they have bought shares in five estates and Gújars have bought one. Mr. Cadell writes :—"In future such acquisitions are likely to be infrequent; the purchase of land in good estates is now, as a rule, beyond the power of the most well-to-do communities, and capitalists have obtained a footing in so many villages, that a would-be purchaser has to fight against the law of pre-emption as well as the enormously enhanced value of land in proportion to a tenant's profits. It is hard that an auction-purchaser of a few months' or years' standing should be able to bar the purchase of land by a man whose ancestors have lived upon that land for centuries, but there is no branch of law which has been more wrested from its original intention than the law of pre-emption, and in this respect the Ját cultivator is no worse off than the Sayyid landlord who frequently finds preferred to himself in his own ancestral village the most recent interloper." One marked result of the pacification of the country on the British occupation, both here and all through the Duáb, was the abandonment of the central fortified village site and the plantation of hamlets all through the area attached to the village, and hence a higher standard of cultivation, more manured and irrigated land and a permanent increase to the cultivating population. No longer harried by Sikhs and Rohillas, and with the old Sayyid proprietors again amongst them, the people began to bring back their abandoned fields into cultivation. As already stated, up to the second regular settlement, the parganah formed a portion of the farm of Nain Singh, but from that time onwards Mr. Cadell has collected the statistics of assessment for portions of the parganah as follows :—

No. of estates.	1219-22 fasli.	1223-27 fasli.	1228-32 fasli.	1233-37 fasli.	1238-41 fasli.	1242 61 fasli. 1835-54.	Last.
28	12,194	12,513	14,222	12,901	13,873	16,750	18,900
3	81	126	160	160	160	190	284
7	...	4,651	4,827	5,524	5,988	5,897	4,943
5	...	...	5,036	4,156	4,628	4,645	4,400
7	...	...	...	4,310	5,054	5,168	5,240
6	...	...	...	...	991	1,465	1,952

From these figures it will be seen that there has been no great or sudden enhancement since the occupation, and any change that there has been is due to the equalisation of the revenue in the settled villages and the colonisation and improvement of those which were uninhabited at the conquest. The high revenues of the Ját villages have not been increased and are still paid, for now they have

become moderate owing to the rise in prices and increase in irrigation. The best estates pay much about the same to Government which they did forty or fifty years ago, while the bad and poor estates of the time of the conquest are rapidly improving and approaching the first rank in the value of their produce.

BIDAULI, a parganah of the Shámli tahsil of the Muzaffarnagar district, is bounded on the north by the Saháranpur district; on the west by the Jumna river, which separates it from the Panjáb; on the east by parganah Jhanjhána, and on the south by parganah Kairána. According to the census of 1872 this parganah had a total area of 86 square miles and 467 acres, of which 38 square miles and 64 acres were under cultivation. The area assessed to Government revenue during the same year was 81 square miles and 89 acres, of which 33 square miles and 550 acres were cultivated, 29 square miles and 268 acres were culturable, and 17 square miles and 550 acres were barren.

Bidauli lies in the extreme north-west of the district and has a peculiar character of its own. On the west it is subject to much diluvion from the action of the Jumna. Since the survey

Physical features. in 1832, six villages have been cut off and added to the Karnál district, and the river is annually eating more and more into the parganah¹. More than one-half of the parganah is enshrouded in thick *dhák* (*Butea frondosa*) forests, used by the Gújar inhabitants as hiding-places for themselves and stolen cattle. There is no canal irrigation, but earthen wells can easily be sunk, and cost only from two to three rupees in the lands bordering on the Jumna and seven to eight rupees more inland. The wells ordinarily last only for one season, but sometimes for a year or more. There is little really good soil; the *misan* only forms ten per cent of the cultivated area, the *rausli* is of an inferior kind, and *bhár* predominates. Hence wheat, maize and sugar-cane are poor, and the principal crops are *joár*, gram, *manduwa*, and cotton (*bári*). The efflorescence of reh is strongly marked in the tracts near the Jumna, and renders large patches of land unculturable: in a week or ten days it will kill a most luxuriant crop. The villagers say that manure is fatal to it, but the use of manure is much neglected in this parganah. The inhabitants are principally Gújars and Rángars, with some Sayyids, a few Játs, Rorhs, and Patháns.

The former settlement was made by Mr. E. Thornton and the new one by

Messrs. Colvin and Keone. Mr. Colvin writes:—

Fiscal history. “Bidauli has long been known as one of the most unsatisfactory parganahs in the district. For many years it has been suffering from over-assessment, but the troubles of 1857-58 and the famine of 1861 have reduced it to a very bad condition. The parganah was once thickly inhabited by Sayyids, whose descendants still cling to it, though impoverished and almost beggared, and there are not wanting signs of its former prosperity. Some village

¹ See new Set. Rep., pp. 98, 117, 120, 125.

sites show evident traces of having formed the centres of considerable life ; in almost every village is to be found the decaying fort of some decayed family. Wells constructed of masonry are abundant ; but, while the old wells have been neglected, few new ones have been built. There were 929 at the last settlement. There are now 1,030, but 113 have been allowed to fall out of order. In 1860-61 there were 294 *kuchcha* wells. Little by little the population has sunk away, as the settlement of 1838 became more and more intolerable. Most of the Sayyid proprietors have long since declared themselves insolvent, and allowed their estates to be made over in farm to the resident villagers. These in their turn have absconded ; then the village has been farmed by neighbouring cultivators, who, again, in a year or so have declared themselves unable to meet the Government demands ; and so, for a longer or shorter period, the village has been thrown back into the hands of Government. The inhabitants, finding that even active cultivation will barely meet the revenue, have, as a rule, ceased to interest themselves in agriculture. The Nawáb Ahmad Ali Khán of Karnál is content to pay the Government demand and see his lands lie waste ; while Sayyid Mahdi Hasan of Bidauli (lately in the service of the former king of Oudh), attempting to induce a better class of cultivators to enter the parganah, was met with such resistance by the Gújars and Rángars that, unable to keep his Játs in comfort and security, he was obliged to let them go. Distress, as might be expected among such a population, has had its usual effects. The Gújars and Rángars, naturally thievish, have been further demoralized by pinching circumstances. Even the better-disposed classes, such as Sayyids and Patháns, finding they could scarcely wring out an honest livelihood, have been found to enter heartily into the cattle-lifting of their neighbours."

Mr. Edwards also, in writing of Bidauli, calls it " perhaps the worst in the district. The soil is generally bad, and if rain falls in excess, the crops rot on the ground and the land becomes a sticky swamp. If, on the other hand, there is a scarcity of rain, it yields no return ; the seeds fail to germinate. * * * The settlement, it is evident, broke down in several villages at least twelve years ago, since which time village has propped up village ; and an adjoining community, if thriving, has been called up on to aid its sinking neighbours in meeting their engagements. The arrangements were left in the hands of the tahsildár, who portioned out the lands to be cultivated partly among the people of the village, but the greater portion among those of the surrounding villages, each being held liable for a quota of the Government revenue. This strange and irregular practice appears to have been generally acquiesced in by the people, and it is difficult to see how, without revision, the Government revenue could otherwise have been realized, inasmuch as the severity of the assessment virtually precluded sale or farming leases. Nobody would have anything to do with villages when there was an annual deficit, where the

soil was so inferior that the land which yielded a crop one year must be left fallow the next, and where the population was mainly, if not entirely, Gújar, and scanty in number." Mr. Keene notes that the land-revenue in 1862 was quite nominal, and the balances showed how heavily it then pressed upon the people. These balances were not due to the drought of 1860-61, for "owing partly to the scanty population and partly to the fact that there is scarcely any cultivated land that is not dependent on the vicissitudes of the seasons, the drought of 1860-61 did not bear severely on this parganah." Statistics show that the whole difference between the produce-value in an ordinary year and in a year of drought did not exceed eight per cent., and this was principally due to the emigration of the cultivators.

The transfers from 1841 to 1861 amounted to 13,279 acres, or over 22 per cent. of the total area. Of this Sayyids lost 7,961 acres, Gújars 2,001 acres, and Rajpúts 1,435 acres. The Sayyids recovered the greater proportion of their losses, buying in 7,784 acres of the total area transferred. There is not a single mart in the whole parganah, and many villages have not only bad roads, but, during a great part of the year, swollen streams between them and their markets. The area statistics show that during the currency of the late settlement cultivation had fallen off by 17 per cent. and the assessment was, therefore, lowered by 23 per cent. Some misapprehension existed as to whether the term of settlement was ten years or twenty years as in the remainder of the district, but it has recently been ruled that twenty years should be accepted as the term intended by Government. The new assessment has been levied since 1862-63. From Mr. Palmer's report in 1872 it is gratifying to observe that this parganah is improving rapidly. The Gújars are now taking to agricultural pursuits, cultivation is increasing in their villages, there is less recourse to the money-lenders, sales are infrequent and redemptions of mortgage very common. This result justifies the moderation in the Government demand, which has converted a rapidly deteriorating tract into one where every mark of progress is visible.

The following statement shows the statistics of the land-revenue at the past and present settlements:—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	Cultivated.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a. p.
1841, ...	54,005	7,662	3,925	17,611	...	...	24,807	37,905	1 8 5
1862, ...	55,616	11,101	3,425	20,546	14,068	6,476	20,544	29,125	1 6 8
1863, ...	55,224	11,101	3,033	20,546	14,068	6,476	20,544	29,125	1 6 8

The difference between the census statistics of 1848 and those now given for 1841 is due to diluvion caused by the Jumna: the villages transferred to Karnál being omitted from the returns now given. Cultivation in 1872 reached 21,726 acres. According to the census, the land-revenue for 1872 amounted to Rs. 29,286 (or with cesses, Rs. 34,416), falling at a rate of Ro. 0-8-5 per British acre on the total area, at Ro. 0-9-0 per acre on the area assessed to Government revenue, and at Ro. 1-3-3 per acre on the cultivated area. The sum paid by cultivators to the landowners as rent and cesses during the same year has been estimated at Rs. 55,708.

According to the census of 1872 parganah Bidauli contained 50 inhabited sites, of which 19 had less than 200 inhabitants; 17 had between 200 and 500; 10 had between 500 and 1,000; two had between 1,000 and 2,000; one had between 2,000 and 3,000; and one had between 3,000 and 5,000. The settlement record shows that there were 54 estates on the register in 1863. The total population numbered 23,268 souls (10,371 females) in 1872, giving 267 to the square mile. Classified according to religion, there were 13,690 Hindús, of whom 5,960 were females, and 9,578 Musalmáns, amongst whom 4,411 were females. Distributing the Hindu population amongst the four great classes, the census shows 917 Brahmans, of whom 396 were females; 44 Rájpúts, including 11 females; 1,199 Baniyas (545 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 11,530 souls, of whom 5,008 are females. The principal Brahman sub-division found in this parganah is the Gaur, who number 890 souls. The Baniyas are chiefly Agarwáls, and amongst the other castes numbering more than 500 members are found the following:—Kahírs, 1,684; Chamárs, 1,678; Málís, 771; Khákróbs, 1,346; Játs, 1,499; and Gújars, 1,450. The Musalmáns show Shaikhs, 7,904, and Sayyids, 1,166. At the settlement in 1862 the proprietary body comprised Gújars, who held 11,656 acres; Játs, with 6,387 acres; Sayyids, 9,079 acres; Patháns with 1,673 acres; and Tagas, Mahájans, Shaikhzádahs, Brahmans and others with smaller holdings.

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 81 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 988 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 497 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 4,174 in agricultural operations; 1,007 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 1,135 persons returned as labourers and 273 as of no

specified occupation. Taking the total population, irrespective of age or sex, the same returns give 898 as landholders, 10,401 as cultivators, and 11,969 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 447 males as able to read and write out of a total male population numbering 12,897 souls. Bidauli is an old Akbari parganah of the Saháranpur sirkár, but there have been numerous interchanges with the adjoining parganahs and several of the villages have been cut off by the Jumna and added to Karnál. In 1840-41 two villages were received from Nakúr and two from Chaunsat Kheri in the Saháranpur district.

BIDAULI, the chief village of the parganah of the same name in the Muzaffarnagar district, is distant 36 miles from the civil station. The population in 1872 numbered 3,663 souls. The Chaukidári Act (XX. of 1856) is in force in Bidauli and supports a village police force numbering eleven men at an annual cost of Rs. 636. The total income from all sources in 1872-73 was Rs. 1,657, giving an incidence of Rs. 0-4-7 per head of the population and Re. 1-7-9 per house. During the same year the number of houses assessed was 713 and the expenditure was Rs. 1,633. Bidauli lies on the route from Meerut to Karnál and is distant 13 miles from Shámli and 11 miles from Karnál. The road from Shámli to Bidauli is described under Shámli (*q. v.*) Hence to Karnál the road passes through a country covered with *dhák* jungle; it is tolerably good and crosses an unbridged nála at 2½ miles; Manglauna at three miles; thence across the Jumna by a bridge-of-boats in the dry season and a ferry in the rains. There is a first-class police-station and a branch post-office here. Bidauli is the seat of the Jagneri branch of the Bárha Sayyids, for an account of whom see the district notice under "history."

BUDHÁNA or Burhána, a town in the parganah of the same name in the Muzaffarnagar district, is distant 19 miles from Muzaffarnagar. The population in 1847 was 5,559; in 1853 was 6,750, and in 1865 was less than 5,000. There were 6,162 inhabitants in 1872, of whom 3,867 were Hindús (1,801 females) and 2,295 were Musalmáns (1,175 females). This town is situated on the right bank of the Hindan river and contains a fair proportion of substantial brick-built houses on a raised site, with good drainage by the ravines towards the river. The outer walls of the houses adjoin each other so as to form a kind of fortification, and the town itself is entered by four openings called gates. To the north the site is bounded by the sandy bed of the Hindan, and on the west and south there is an almost continuous belt of mango trees. On the east there is a tract of low land forming a portion of the bed of the Hindan which is submerged in time of flood. The water in wells in this low tract is found at a depth of 30 feet from the surface, and in the bázár, in March, 1869, the water was 48 feet from the surface and five feet in depth, with a rather unpleasant taste and of a dull colour.¹ Ague and

¹ See Cutcliffe's report, appendix xlix.

malarious fever prevailed in 1869, though at that time there was no irrigation nearer than ten miles. The Chaukidári Act (XX. of 1856) is in force, and in 1872 supported a police force of 16 men at a cost of Rs. 906, besides a staff of sweepers. The total income from all sources in 1872-73 was Rs. 2,084, giving an incidence of Re. 0-3-6 per head of the population and Re. 1-0-0 per house. During the same year the number of houses assessed was 1,203 and the expenditure was Rs. 1,927. There is a first-class police-station and a branch post-office here. During the mutiny, the old fort of Budhána was taken and garrisoned by Khairáti Khán of Parasauli, assisted by the Jaula people. It was again captured on the 15th September, 1857.

BUDHÁNA or Burhána, a parganah in the tahsil of the same name in the Muzaffarnagar district, is bounded on the north by parganah Shikárpurá and partly by parganah Shámli; on the west by parganah Káundhla; on the east by part of parganah Kháulanli, and on the south by the Meerut district. According to the census of 1872 this parganah had a total area of 79 square miles and 480 acres, of which 57 square miles and 358 acres were under cultivation. The area assessed to Government revenue during the same year was 78 square miles and 147 acres, of which 56 square miles and 205 acres were cultivated, 8 square miles and 633 acres were culturable, and 12 square miles and 589 acres were barren.

Budhána lies to the south of the district and its eastern half falls within the delta formed by the confluence of the West Káli nadi with the Hindan which takes place at Riaili Nagla in this parganah. As might be supposed, the tendency of the drainage is to cut ravines into the basin of these rivers, which gradually eat into the heart of the best lands. The sub-soil is firm and *kuchola* wells can easily be made, the water being about 36 feet from the surface in the uplands and about 24 feet from the surface in the *kháulir* of the two rivers. These lowlands are occasionally irrigated from the rivers and produce fair crops of sugar, maize, and wheat. Mr. Trevor Plowden formed the settlement under Regulation IX. of 1823 of the greater portion of this parganah: the remainder was assessed by Messrs. Glyn and Elliot. The severity of the previous revenue whilst the parganah formed a portion of the Sunru *jágir* is noticed under parganah Sardhana of the Meerut district. Budhána, however, fared better than the other parganahs of the *jágir* from the Begam's *Díwán* being a resident and hereditary chaudhri of the parganah. Mr. Plowden's assessment was by no means a light one, ranging from Re. 1-10-10 to Rs. 4-7-8 per acre. On this account the parganah suffered badly in the drought of 1860-61, "so much so that the people have taken the idea into their heads that the locality is accursed on account of their misconduct." The old settlement¹ was apparently

¹ Set. Rep., 238. In 1870, Mr. Cadell recommended only eight estates for permanent settlement in this parganah.

based upon the average collections of twenty years preceding the lapse of the parganah. Mr. Keene, who assessed the parganah in 1862, took a parganah rental of Rs. 1,36,385, derived from the application of Mr. Thornton's averages and the ascertained rates for land paying rent in cash, as the basis of his assessment, giving an all-round rate on cultivation of Re. 1-14-11½ per acre. Cultivation has increased by 1,614 acres only, or 4·8 per cent. As the parganah depended so much on irrigation from wells and on the industry of the cultivators, a light assessment was deemed necessary, though it would appear that the demand has been made too light. From 1841 to 1861, 5,677 acres, or about one-ninth of the total area, changed hands by private transfer or under orders of the civil courts, and 3,336 acres were confiscated on account of rebellion. Rajpúts lost 1,603 acres, Játs 1,184, and Afgháns 1,139 acres. The principal purchasers were the same classes and Mahájans; these last purchased 1,987 acres and Rajpúts bought back 1,206 acres. In 1861, the principal proprietary bodies were Rajpúts, Játs, Patháns, Tagas, and Gújars.

The following statement shows the statistics of the land-revenue at the past and present settlements and at Mr. Cadell's revision in 1870:—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs. a. p.
1848, ...	50,492	10,280	219	6,327	...	...	33,866	69,116	2 0 0
1863, ...	51,074	8,423	848	6,521	18,518	16,764	35,282	69,846	1 15 8
1870, ...	51,074	8,572	...	6,628	81,708	17,166	35,874	71,146	1 15 9

The land-revenue for 1872, according to the census, amounted to Rs. 70,839 (or with cesses, Rs. 81,974), falling at a rate of Re. 1-6-3 per British acre on the total area, at Re. 1-6-8 per acre on the area assessed to Government revenue, and at Re. 1-14-9 per acre on the cultivated area. The sum paid by cultivators to the landowners as rent and cesses during the same year has been estimated at Rs. 1,86,591.

According to the census of 1872 parganah Budhána contained 43 inhabited sites, of which 4 had less than 200 inhabitants; 13 had between 200 and 500; 13 had between 500 and 1,000; 9 had between 1,000 and 2,000; 2 had between 2,000 and 3,000; and one had between 3,000 and 5,000. The only town containing more than 5,000 inhabitants is Budhána itself with 6,162. The settlement records show 44 estates in 1862. The total population in 1872 numbered 41,575 souls

(19,069 females), giving 519 to the square mile. Classified according to religion, there were 29,254 Hindús, of whom 13,362 were females, and 12,321 Musalmáns, amongst whom 5,707 were females. Distributing the Hindu population amongst the four great classes, the census shows 2,522 Brahmins, of whom 1,158 were females; 1,550 Rajpúts, including 624 females; 2,961 Baniyas (1,335 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 22,231 souls, of whom 10,245 are females. The principal Brahman subdivision found in this parganah is the Gaur, numbering 2,369 souls. The Rajpúts belong to the Gaur (188), Kachhwála and Chhotiyána clans, and the Baniyas to the Agarwál (2,961) subdivision. Amongst the other castes the principal are the Taga (988), Kahár (2,478), Chamár (4,613), Garariya (788), Juláha (622), Kumhár (676), Hajjám (580), Khákrob (1,591), Jút (3,961), Gújar (317), and Saini (1,116). The Musalmáns comprise Shaikhs (11,109) and Mughals (457).

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 273 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 1,536 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 1,483 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 6,277 in agricultural operations; 1,919 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 2,069 persons returned as labourers and 514 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 2,142 as landholders, 14,301 as cultivators, and 25,132 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 1,312 males as able to read and write out of a total male population numbering 22,506 souls. Budhána is an old Akbari parganah, received from Moorut in 1842. There have been several interchanges with neighbouring parganahs, and in 1840-41, one village assessed at Rs. 1,200 was received from parganah Saháranpur in the Saháranpur district.

BUTRÁRA, a small village in parganah Sháunli of the Muzaffarnagar district, is distant 17 miles from the civil station. The population in 1872 numbered 1,347 souls, and there is an out-post of police here.

CHARTHÁWAL, a town in parganah Chartháwal of the Muzaffarnagar district, is distant 7 miles from Muzaffarnagar. In 1847 the population was 5,111; in 1853 there were 6,467 inhabitants, and in 1865 there were less than 5,000. The population in 1872 numbered 5,121 souls, of whom 3,209 were Hindús (1,493 females) and 1,912 were Musalmáns (904 females), occupying 1,232

houses. Act XX. of 1856 (the Chaukidári Act) is in force, and in 1872 supported a village police numbering fifteen men of all ranks at an annual cost of Rs 876, besides a few scavengers. The total income from all sources in 1872-73 amounted to Rs. 1,410, giving an incidence of Re. 0-4-1 per head of the population and Re. 1-7-10 per house assessed (896). During the same year Rs. 1,511 were expended, a great proportion of which was on works of public utility connected with the sanitation of the town. There is a second-class police-station and a branch post-office in Chartháwal. Friday is bazar day. The inhabitants are chiefly Hindús. The soil around the site is light and porous with a sandy subsoil, yielding wheat and millets. To the west runs the Hindan at a distance of three miles, and on the east the Káli, at a distance of five miles. Masonry wells supply water for drinking purposes, with an average depth from the surface of 15 to 20 feet. In most of them it is sweet and good, though some are brackish. The drainage runs off to the Káli nadi, but there are numerous holes about the site "roeking with foul and stinking mud." There has been much fever in the town, but less than the average of the parganah. All irrigation water is drawn from wells. Chartháwal is now a small agricultural town, but was once the residence of an *amil*.

CHARTHÁWAL, a parganah of the Muzaffarnagar tahsil of the same district, is bounded on the north by the Saháranpur district, on the east by parganah Muzaffarnagar, on the south by parganah Baghra, and on the west by parganah Thána Bhawan. According to the census of 1872 this parganah had a total area of 91 square miles and 166 acres, of which 69 square miles and 498 acres were under cultivation. The area assessed to Government revenue during the same year was 91 square miles and 156 acres, of which 69 square miles and 185 acres were cultivated, 11 square miles and 455 acres were culturable, and 10 square miles and 156 acres were barren.

The Hindan flows from north to south through the western portion of the parganah, and between it and the Káli on the east the land is high, but naturally fertile. Water is found here at a great depth; masonry wells are scarce, and *kuchcha* wells are expensive and seldom last more than two years. Except in bad years cultivation is careful and abundant. The villages lie far apart, but are largo and substantial. To the west of the Hindan there is a canal distributary running parallel to the river, and the villages near it are thriving. A road runs from Jalálabad by Thána Bhawan through the parganah to Muzaffarnagar, crossing the Hindan by a ford which is passable except after heavy rain, and the Káli by a masonry bridge.

The settlement of this parganah under Regulation IX. of 1833 was made by Mr. E. Thoraton in 1841 and expired in 1861. The revision was made by Mr. A. Colvin in 1862, who maintained the division into circles made by his predecessor, adding one more for

Physical features.

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the villages beyond the Hindan. With the exception of Chartháwal itself, Rasúlpur and Sayyidpur belonging to Sayyids and Bambola over-assessed, none of the villages in this parganah suffered during the last settlement, and the introduction of the canal has had a great share in its prosperity.¹ In the new settlement Mr. Colvin estimated the increase of revenue due to the canal as Rs. 3,204. Chartháwal suffered much during the famine of 1860-61. Mr. Koene calculated the number of emigrants at 6,745, and remarked that a traveller in passing through the parganah "cannot fail to be struck with the wide-spread desolation of the villages and the desert aspect of what once were fields." All these circumstances combined to preclude any great increase in the revenue demand, but since then the parganah has advanced rapidly in prosperity. The transfers during the currency of the past settlement amounted to 21 per cent. of the total

Transfers. area : 5,199 acres were conveyed by private sale ; 5,104 acres by orders of the civil courts, and 1,934 acres were confiscated for rebellion. By sale alone Sayyids lost 5,458 acres, Rajpúts lost 2,581 acres, and Tagas lost 1,459 acres. The money-lenders were the chief purchasers. Mahájans and Khatris obtained 5,865 acres. Tagas, Rajpúts, Sayyids and Júts form the bulk of the proprietary body at the present time.

The following statement shows the statistics of the land-revenue at the past and present settlements and the figures given in Mr. Cadell's revision in 1870 :—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a. p.
1848, ...	58,092	9,540	1,774	7,192	...	...	39,586	63,790	1 9 0
1862, ...	59,044	6,659	539	7,497	15,173	29,176	44,349	61,257	1 6 1
1870, ...	59,044	6,659	539	7,497	15,174	29,175	44,349	61,636	1 6 0

The land-revenue for 1872, according to the census records, amounted to Rs. 61,856 (or with cesses, Rs. 71,716, falling at a rate of Re. 1-0-9 per British acre on the total area, at Re. 1-0-11 per acre on the area assessed to Government revenue, and at Re. 1-6-2 per acre on the cultivated area. The sum paid by cultivators to the landowners as rent and cesses during the same year has been estimated at Rs. 1,29,092.

According to the census of 1872, parganah Chartháwal contained 55 inhabited sites, of which 10 had less than 200 inhabitants ; 20 had between 200 and 500 ; 18 had between

¹Still Mr. Cadell could not recommend any of the estates for permanent settlement.

500 and 1,000; 5 had between 1,000 and 2,000, and one had between 2,000 and 3,000. Chartháwal itself has 5,121 souls. The settlement records show that there were 66 estates in 1863. The total population in 1872 numbered 34,930 souls (15,562 females) in 1872, giving 380 to the square mile. Classified according to religion, there were 24,917 Hindús, of whom 10,967 were females and 10,013 Musalmáns, amongst whom 4,595 were females. Distributing the Hindu population amongst the four great classes, the census shows 2,281 Brahmans, of whom 1,011 were females; 3,050 Rajpúts, including 1,131 females; 1,393 Baniyas (621 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 18,193 souls, of whom 8,204 are females. The principal Brahman subdivision found in this parganah is the Gaur, numbering 2,178 souls in 1872. The Rajpúts belong to the Gaur (304), Pundir and Chhonkar clans, and the Baniyas to the Agarwál (1,361) subdivision. Amongst the other castes the principal are the Taga (2,177), Kahir, Chamár (4,785), Garariya (905), Juláha (788), Jogi (618), Khákrób (1,167), Ját (971), and Saini (750). The Musalmáns are distributed amongst Shaikhs (9,456), Sayyids (314), and Mughals (27). The chief agricultural castes are Tagas on the eastern highland and Rajpúts towards the Káli and the Hindan.

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 458 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 1,128 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 616 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 5,730 in agricultural operations; 1,611 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 2,419 persons returned as labourers and 287 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 480 as landholders, 13,985 as cultivators, and 20,465 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 515 males as able to read and write out of a total male population numbering 19,368 souls. Chartháwal is an old Akbari parganah, much changed in area by transfers to and from the neighbouring parganahs. In 1840-41 three villages were received from Deoband, one from Jaurási, fifteen from Thána Bhawan, and one from Chaunsat Kheri in the Saháranpur district, having an aggregate assessment of Rs. 17,515.

CHAUSÁNA, a village in parganah Bidauli of the Muzaffarnagar district, is distant 33 miles from the civil station. The population in 1872 numbered 2,567

souls. There is a second-class police-station and a branch post-office here. This village is the head of a Rajpūt *chaubisi*.

CHHAPAR, a large village in parganah Pūr Chhapār of the Muzaffarnagar district, distant 9 miles from the civil station. The population in 1865 numbered 2,300 souls and in 1872 was 2,634, mostly Hindu and Musalmān Tagās. The inhabitants have suffered much from fever. The water in the principal well was 15 feet from the surface in March, 1869, with 30 feet of water, and was said to have contained only 12 feet of water before the introduction of the canal, to which no doubt a portion of the unhealthiness prevalent in Chhapār must be attributed. There is a small bazar, but the village is essentially agricultural, housing from two to three thousand head of cattle every night. There is a branch post-office here.

DEHRA, a station of the Great Trigonometrical Survey, is situated in parganah Deoband, in the Sahāranpur district, just outside the boundary of the Muzaffarnagar district, in lat. $29^{\circ}37'40''$ and long $77^{\circ}39'23''$, at an elevation of 893.1 feet above the level of the sea. The upper markstone of the station is situated in the village of Dohra, 1.5 miles south-west of the village of Rankanda, 0.5 mile north-east of Kasanli, and 0.9 mile north-north-east of Jakwāla. This height was deduced trigonometrically.

DIHARPURA, a small village in parganah Bhūma Sambhalera of the Muzaffarnagar district, is distant 31 miles from the civil station. The population in 1872 numbered only 195 souls, and it is only noticed as containing an outpost of police.

GADHI DÚBHAR or Garhi Dúbhar, also known as Garhi Miyān Dhái Khān, a village in parganah Jhanjhāna of the Muzaffarnagar district, is distant 23 miles from the civil station. The population in 1865 numbered over 2,700 souls, and in 1872 there were 2,417 inhabitants, amongst whom are a large number of the relations and clansmen of the Bilūch zamīndār. The site of Gadhi Dúbhar is somewhat raised and lies about a mile and a half to the west of the eastern Jumna canal, but between it and the canal the land lies low and retains a considerable quantity of water during the rains which finds an exit under the canal. The well-water in this low tract is good and is found at a depth of twelve feet from the surface; in the town it is somewhat brackish and sinks to twenty feet. There are several fine groves of trees around the town, and to the west there is a canal channel. The roads are in part paved with brick and meet in the middle of the village, where there is a large well. Many of the houses are brick-built and of two storeys, but of these some are now in ruins. There are six masjids. A bazar is held every day and a market on Sundays. There are many Baniyas resident and a fair trade is carried on in sugar and salt. The smaller lanes are very badly kept and are very uneven and full of holes which form receptacles for mud and refuse. Little regard is had for

cleanliness, and in all the open spaces and among the ruined houses, heaps of manure are to be met with, which with the increased moisture caused by the rise in the water-level must be considered the proximate causes of the malarious diseases found to prevail so universally in this village.¹

GANGERU, a town in parganah Kándhla of the Muzaffarnagar district, is distant 35 miles from Muzaffarnagar. Gangeru had 5,117 inhabitants in 1872, of whom 2,613 were Hindús (1,158 females), chiefly Gújars, and 2,504 were Musalmáns (1,130 females). Gangeru is a straggling place of many brick ruins, but the site is fairly raised, and though there are many undrained water-holes and little attention is paid to cleanliness, there is little fever here. There is a canal channel to the east of the town and another runs about one mile to the west. Gangeru was the chief town of a small parganah containing only two villages in 1816.

GORDHANPUR, a parganah of the Muzaffarnagar tahsíl and of the same district, is bounded on the north by the Saháranpur district, on the west by parganah Púr Chhapár, on the east and south-east by the river Ganges, and partly on the south by parganah Bhukarheri. According to the census of 1872 this parganah had a total area of 74 square miles and 256 acres, of which 22 square miles and 198 acres were under cultivation. The area assessed to Government revenue during the same year was 74 square miles and 25 acres, of which 22 square miles and 198 acres were cultivated, 37 square miles 13 acres were culturable, and 14 square miles and 454 acres were barren. Gordhanpur is unfortunately situated on the east, where it is encroached upon by the Ganges, and it is swamped on the west by the Soláni.

In time of heavy rain, Gordhanpur is cut off from all communication with the rest of the district, and to enter it requires a detour through the southern part of Saharanpur. Mr. Keene, who made the assessment in 1862, divides the parganah into four tracts.² One consists of the estates cut by the Ganges or its tributary streams, and a second of the swampy land along the Soláni. The small inverted oasis of high land between the rivers formed two more divisions. Much of the loss caused here by diluvion and over-saturation is preventible, and in 1865-72 efforts were made towards draining a portion of the swampy tract (*choel*) that has been caused by percolation from the Ganges canal. The whole tract is occupied almost exclusively by Gújars, "but they are of comparatively inoffensive habits;—only the same lack of energy which is shown in their crimes unfortunately also exhibits itself in their cultivation. They have no want of water, but are otherwise badly off, and eke out a subsistence by selling straw for thatch, and by grazing

¹ See Cutcliffe's Report, App. xli.

² See new Set. Rep., 93, 117, 140. Twenty nine villages are subject to percolation in this parganah. Thirty-five estates here and five estates of Púr Chhapár were under direct management on this account in 1874.

hords of cattle, which pay a tax of four to six annas per head," known as *dumchi* or tail-money. Much of the land now lying uncultivated as incapable of bearing so much as one crop during the year will be made to yield crops whenever the demand for agricultural produce and the redundancy of the labour market shall render it worth the while of the landholders to reclaim it by draining. In regard to the remainder of the uncultivated area it has been found that though the winter sun is not of sufficient power to dry it or to fecundate the seed for the *rabi* crop, yet in seasons of scanty or late rain-fall it produces fair crops of *munji* rice. Several attempts have been made to drain these areas of swamp by the people themselves, but, owing to the want of proper levels, their efforts have been unsuccessful. Thousands of acres of fine soil are thus subject to a rapid and growing deterioration. Mr. Keene found the old revenue rates falling at Re. 1-4-6 on the cultivated area and Re. 0-10-9 on the total assessed area, with a land revenue of Rs. 19,623. He proposed Rs. 19,478 as the new revenue, which from the increase of cultivation (15,447 to 16,000 acres) has caused the revenue-rate to fall to Re. 1-3-7½ on the cultivated acre. Portions of this assessment were cancelled by order of Sir W. Muir in 1868, and Mr. A. Cadell was instructed to report on the entire pargana. During the settlement of 1862 it was found that from 1841 to 1861 transfers amounting to 6,642 acres, or 15·3 per cent. of the total area, had taken place. Gújars lost 4,635 acres; Afgháns, 265, and other castes the remainder. Gújars and Mahájans were the principal purchasers, the former recovered 2,036 acres and the latter became the proprietors of 1,501 acres.

The following statement shows the statistics of the land-revenue at the Land-revenue, past and present settlements :—

	Total area.	CULTIVATED.			Culturable.	Revenue-free.	Barren.	Revenue.	Rate on cultivated acre.
		Wet.	Dry.	Total.					
1841.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a. p.
Uplands, ...	22,259	...	8,881	8,881	8,829	...	4,549	11,040	1 3 11
Lowlands, ...	22,870	...	7,797	7,797	6,871	...	8,202	9,326	1 3 2
Total, ...	45,129	...	16,678	16,678	15,700	...	12,751	20,166	1 3 6
1863.									
Uplands, ...	23,502	728	9,122	9,850	10,533	...	3,119	11,641	1 2 11
Lowlands, ...	23,704	140	6,036	6,176	10,762	...	6,766	5,761	0 14 11
Total, ...	47,206	868	15,158	16,026	21,295	...	9,885	17,402	1 1 6

The lowlands include the six estates from Bhukarheri and the 33 estates of Gordhanpur which have been formed into what is known as the *choel* circle, and

have yearly assessments which amounted to Rs. 4,694 in 1281 *fashī* (1873-74 A.D.) The villages received from Bhukarheri are, Ilmawāla, Jogawāla, Farīdpur, Zindawāla, Kānewāli and Shahdera, having a total area of 6,087 acres, of which 1,816 acres were barren and 4,271 acres were assessable. The six wholly *khādīr* villages proposed for transfer from Pūr Ohhapār to this parganah are Bahmanwāla, Saheli, Shamsnagar, Sherpur, Kālawāla, and Mandanwāla.

Some misapprehension was felt as to whether the assessment of the uplands should stand for twenty years, as in the other parganahs, or for only ten years, as recommended by Mr. Martin. This question has not yet been decided. In 1872, out of 75 estates, 35 were held under direct management owing to percolation, and the settlement officer recommended the addition of seven more to the list and the revision of the assessment in five villages affected by the Bānganga. These with six estates of Pūr Ohhapār similarly deteriorated by fluvial action, and which, it is proposed, should be transferred to Gordhanpur, constitute the portions of the parganah subject to annual summary settlements. The assessment of 1861 resulted in a reduction of Rs. 2,306, and Mr. Cadell writes that there is no hope of increase to the land-revenue in this parganah, and the "chief object to be looked to in a summary revision of the assessment is to secure those estates which have deteriorated since the date of Mr. Keene's settlement from being injured by assessments which, owing to increasing swamp, may have become too heavy." Much has, however, been done to remedy these evils. Drainage works inaugurated by Captain Forbes have already produced marked and valuable results within a limited area, and a good cart-road will soon be constructed from Pūr to Gordhanpur, crossing the swamp by an earthen embankment and the Solāni by pontoons. Still cultivation has decreased, in ten years, in the swamped estates from 4,876 acres to 3,488 acres, and in the 35 upland estates bordering on the *khādīr* from 10,234 acres to 9,744 acres.

According to the census of 1872, parganah Gordhanpur contained 56 inhabited villages, of which 32 had less than 200 inhabitants; 16 had between 200 and 500, and 8 had between 500 and 1,000. The settlement record shows 75 estates on the register in 1863. The total population in 1872 numbered 13,394 souls (6,007 females), giving 181 to the square mile. Classified according to religion, there were 11,845 Hindūs, of whom 5,321 were females and 1,549 Musalmāns, amongst whom 686 were females. Distributing the Hindu population amongst the four great classes, the census shows 857 Brahmans, of whom 373 were females; 235 Rajpūts, including 111 females; 524 Baniyas (237 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 10,229 souls, of whom 4,600 are females. The principal Brahman subdivision found in this parganah is the Gaur (847). Rajpūts belong for the most part to the Gaur clan (304) and Baniyas to the Agarwāl (522) subdivision;

Amongst the other castes, the chief in numbers are the Kahár, Chamár (2,908), Kumbár (243), Máli (447), Khákrób (336), Gújar (3,677), and Saini (792). Amongst the Musalmáns, Shaikhs number 1,431 souls.

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age) 92 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 604 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 180 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 2,076 in agricultural operations; 652 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral and animal. There were 676 persons returned as labourers, and 38 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 209 as landholders, 5,789 as cultivators, and 7,396 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 98 males as able to read and write out of a total male population numbering 7,387 souls. Gordhanpur or Gobardhanpur represents a portion of the old parganah of Tughlakpur called after the village of Tughlakpur, near which in 1398 A.D. Tímúr had a naval fight. The parganah was subsequently named from the village of Núrnagar, so called after the famous Núrjahan, who lived there for a short time. Núrnagar is now in parganah Púr near the entrance of the Ganges canal into this district, and Tughlakpur is on the right bank of the Soláni in the same parganah. In 1841 three villages were received from Manglaur, twelve from Rúrki, and one from Thána Bhawan, aggregating a revenue of Rs. 6,841, while five villages were transferred from Núrnagar to Manglaur, nine to Rúrki, and three to Jawálapur, aggregating a revenue of Rs. 7,813. Six villages were received from Bhukarheri in 1863.

GORDHANPUR, a village in the parganah of the same name in the north-eastern corner of the Muzaffarnagar district, is distant 26 miles from the civil station. The population in 1872 numbered 839 souls. There is a first-class police-station and a branch post-office here. This village gives its name to the parganah.

GÚLA, a village in parganah Shikárpur of the Muzaffarnagar district, is distant 13 miles from the civil station. This village in 1865 had over 3,000 inhabitants; in 1872 the numbers were 2,316, chiefly Játs. The site lies to the west of the Káli nadi on broken somewhat raised ground leading down by ravines to the river-bed, which is here a mile wide. The lanes are open and wide and drain well towards the river. The water is good and is found at a depth of thirty feet from the surface. Though far removed from canal irrigation, fever has been prevalent here in an epidemic form.

HARHAR, a village in parganah Thána Bhawan of the Muzaffarnagar district, is distant 23 miles from the civil station. The population in 1872 numbered 948 souls, chiefly Rángar Musalmáns. The site is somewhat raised and lies on the high land leading down to the *khádir* or low-land of the west or right bank of the Krishni nadi, with a good fall for the drainage. The well-water is good and is found at a depth of twenty-eight feet from the surface. The proprietors lost their rights on account of rebellion in 1857, and the village now belongs to a Baniya of Muzaffarnagar. The old fort of the former owners is now in ruins and overgrown with jungle, but still presents a respectable appearance. The present state of the village is what might be expected from its being the property of an absentee Baniya landholder. The ways are narrow and broken, and manure heaps and refuse lie amid stagnant pools in every direction, whilst every thing shows neglect and an entire absence of any regard for cleanliness. During the mutiny, the inhabitants of Harhar and the neighbouring villages of Heradh and Sikka were punished for their turbulence. Those of Harhar waged war against all comers, and from robbing and murdering every traveller that passed along, effectually closed the road. The flying column found here upwards of forty cart-loads of plundered property, consisting of sugar, gums, dyes, &c., belonging to merchants at Shámli.

HASANPUR, a village in parganah Bhúma of the Muzaffarnagar district, is distant 28 miles from the civil station. The population in 1872 numbered 1,375 souls. The village site lies on the edge of the *bángar* or upland overlooking the Ganges *khádir*, and contains six muhallas or wards. The houses are scattered and built of mud. The water in the wells is found at forty feet from the surface. Hasanpur formerly belonged to a Sayyid family, but has now fallen into the hands of a Baniya money-lender. Traces of the Sayyid ownership are apparent in the remains of brick-built houses, the old *masjid*, now out of repair, and the wide road-ways.

HUSAINPUR, a village sometimes known as Husainpur-Bahádurpur in parganah Bhúma of the Muzaffarnagar district, is distant 22 miles from the civil station. The population in 1872 numbered 1,835 souls, chiefly Ohauhán Rajpút zamíndárs and cultivators and Chamár labourers and sub-tenants. The village is really made up of two villages, Husainpur and Bahádurpur, but these are so closely joined together that they are for all practical purposes known as one. The site lies about the centre of the Ganges *khádir* or river-bed and is very uneven, filthy and uncared for. Cultivation in the neighbourhood is much impeded by the existence of high grown grass which harbours large numbers of wild pigs and occasionally tigers from the opposite side of the river. Water, in the only brick-built well, is found at nine feet from the surface and in the rains rises up to nearly the surface. In the hot-weather the grass is often burned down, and with it the village butts, a fact which may account for the

poor appearance of the village. In the mutiny, Husainpur was plundered by the Gújars of Siáli, who carried off all the cattle and movable property they could lay hands on, and since then the inhabitants have not been able to recover entirely their former position. Husainpur is a halting-place on the Meerut and Bijnaur road, $7\frac{1}{2}$ miles from Bahsúma and $84\frac{1}{2}$ miles from Bijnaur. The villagers suffer from coughs and chest diseases, due to the exposed position of the site and from fever in the autumn.

ILAHABÁS, a small village in parganah Bhukarhori of the Muzaffarnagar district, is distant 19 miles from the civil station. The population in 1872 numbered only 385 souls, and it is only noticed as containing an out-post of police.

JALÁLABAD, a town in parganah Thána Bhawan of the Muzaffarnagar district, is distant 21 miles from Muzaffarnagar. Jalálabad in 1847 had a population of 7,789 souls; in 1853 the numbers were 8,600 and in 1865 were 7,859. There were only 6,904 inhabitants in 1872, of whom 3,249 were Hindús (1,465 females) and 3,655 were Musalmáns (1,833 females), chiefly Patháns. The Chaukidári Act is in force, and in 1872 supported a village police numbering 26 men of all ranks at an annual cost of Rs. 1,512, besides a staff of sweepers. There is a police-station here supported from the chaukidári funds, and a branch post-office. The total income from all sources in 1872-73 was Rs. 3,488, giving an incidence of Re. 0-6-0 per head of the population and Rs. 2-2-0 per house assessed. During the same year the number of houses assessed was 1,303 and the expenditure was Rs. 2,252.

The township comprises 2,714 acres, of which 69 acres are occupied by the

The site. site alone. Rice and wheat are the principal crops; the former is grown in the *khádir* of the Krisini, which

flows close to the town on the east, and along a canal channel of the eastern Jumna canal which runs on the west. To the north-west, at a distance of about half a mile, is a large jhil or swamp which dries up in the hot-weather, the surface drainage flowing off to the east. Good drinking water is afforded by masonry wells, and is found at a depth of twenty-five feet from the surface. Fever has made sad havoc amongst the inhabitants and has no doubt contributed to the gradual decay of the town. Sanitation is entirely neglected, and water-holes exposing banks of black, stinking mud are common. Jalálabad lies on the route from Dehli to Saháranpur and is distant $13\frac{1}{2}$ miles from Shámli and $13\frac{1}{2}$ miles from Rámpur. From Shámli the road is earthen, raised and bridged, and passes through Banat, Sikka, Heradh (6 miles), Harhar and Thána Bhawan (11 miles)—all bad villages during the mutiny. From Thána Bhawan to Rámpur the road is sandy in places and heavy; it passes Kanáulpur at four miles and Khudána at eight miles. Water and supplies are procurable at Jalálabad, and there is a market on Sundays and Thursdays, only inferior to

the great mart of Shúmli. The folly of its Pathán owners in grasping at exorbitant dues has lessened the trade, but has not yet succeeded in driving it away. Jalálabad is said to have received its name from one Jalál Khán, Pathán, in the reign of the Emperor Alamgír.

The celebrated fort of Ghausgarh was built by Najíb Khán, Rohilla, within a short distance of Jalálabad, and the Patháns of the town formed no unimportant portion of his levies.

Ghausgarh. During the rule of Zábíta Khán the town was more than once sacked by the Marhattas, and a Marhatta is still in possession of Mánikpur close by as a revenue-free grant. On the death of Ghulám Kádír the site of Ghausgarh was deserted, and though one of Perron's deputies endeavoured to restore the old fort, he was too late, for Lord Lake had already reached Dehli. Afterwards Sikh horsemen harried the country, and nothing remains of the old site beyond old mud walls, a few scattered bricks, and the ruins of a mosque. To complete its ruin, the Government has lately conferred the proprietary right to the enclosure within the walls on a colony of Rorhs. The Patháns of Jalálabad remained quiet during the mutiny, and one of their principal leaders did good service as tahsildár of Thána Bhawan after its capture.

JÁNSATH, a town in parganah Jauli Jánsath of the Muzaffarnagar district, is distant 14 miles from Muzaffarnagar. The population in 1874 was 5,312, in 1853 was 5,589, and in 1865 was 6,121. In 1872 there were 6,117 inhabitants, of whom 3,478 were Hindús (1,613 females) and 2,639 were Musalmáns (1,259 females). The Chaukidári Act is in force, and in 1873 supported a village police numbering 21 men at an annual cost of Rs. 1,224, besides a staff of scavengers. The total income from all sources in 1872-73 was Rs. 19-1-2, giving an incidence of Re. 0-4-9 per head of the population and Re. 1-8-5 per house. During the same year the number of houses assessed was 1,203, and the expenditure was Rs. 2,145.

The site is low with sandy soil, here and there mixed with clay. *Urd* is the principal rain-crop and wheat in the spring. Rice has been cultivated of late years and is watered from the canal channels which run on each side of the site. The one to the south-east seems to obstruct the drainage and causes considerable flooding in the rains. The water in the wells is fifteen feet from the surface, with double that depth of water. To the south-east lies Muhalla Gadhi, or Jánsath Gadhi as it is often called, a separate village surrounded by a high brick wall. Within the drainage is very imperfect and much water lodges in the rains; outside there are filth holes and stagnant ponds of every description. Fever and, in 1867, cholera have been very prevalent here. The cutting from the Jánsath water-holes and the ditch around Gadhi both unite and are continued by Tisang to the Nágan nadi. They serve to carry off a portion of the superfluous rainfall

which formerly stagnated in the hollows around both sites. There is a second-class police-station, a branch post-office and a school here. The Sayyids of Jānsath are descendants of Sayyids Umar Shāhīl, Tihanpuri, for an account of whom see the district notice under "History." The original inhabitants were Jāts and Brahmans.

JĀNSATH, a parganah of the tahsīl of the same name of the Muzaffarnagar district, is bounded on the north by parganahs Muzaffarnagar and Bhukarhori; on the west and south by parganah Khātāuli, and on the east by parganah Bhūma Sambalhera. According to the census of 1872, this parganah had then a total area of 96 square miles and 531 acres, of which 75 square miles and 224 acres were under cultivation. The area assessed to Government revenue during the same year was 92 square miles and 312 acres, of which 71 square miles and 243 acres were cultivated, 14 square miles and 448 acres were culturable, and 7 square miles and 256 acres were barren.

The distinguishing features of the parganah are sand and swamp. The Ganges canal runs through the north-western portion of Jānsath with a south-easterly course. All along the northern boundary of the parganah, there is a general tendency to sand, but the greatest extent of poor land is contained in the sandy belts which enter from the north-west and run through this parganah into the adjoining one of Bhūma Sambalhera. This belt, ordinarily two to three miles in breadth, is one of the poorest tracts in the district, and although traversed by canal distributaries is, except in years of famine prices, entirely unirrigated. In addition to this belt, the parganah is traversed from north to south by three lines of sand-hills; a very clearly marked but not very extensive ridge runs through the north-west corner, and this running through the middle of the parganah branches off into three lines which affect more or less the quality of almost every estate in the extreme south of the parganah. On the eastern boundary, a ridge of less importance passes through several estates in Jānsath into the adjoining parganah of Bhūma Sambalhera. The only stream in the parganah is the east Kāli, locally known as the Nāgan nadi, which just acquires a defined channel when it leaves the Antwāra jhīl. The Nāgan is at present a sluggish stream, blocked up at the southern boundary of the district by a bar of stiff clay soil through which the water has not been able to force a sufficient channel. Owing to percolation from the canal and the waste water of the Jānsath rajbaha, and latterly to the construction of the Jānsath drainage line, which brings the surface drainage of a considerable additional tract into this channel, the valley of this river has been seriously injured, and what were once fertile fields along its banks are now becoming more and more water-logged. A project for the improvement of the drainage of this line was formed in 1871, and has since been partially carried out.

The revision of the settlement under Regulation IX. of 1833 was made by Mr. Grant in 1863, and the revision of Mr. Grant's Fiscal history. assessment was made by Mr. A. Cadell in 1872-73. The following statement gives the statistics of area, &c. :—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	A cres.	A cres.	A cres.	A cres.	A cres.	A cres.	A cres.	Rs.	Rs. a. p.
1841, ...	61,922	5,941	1,157	11,084	6,273	37,467	43,740	56,152	1 4 6
1863, ...	61,971	6,239	1,132	6,837	13,564	30,199	43,763	58,578	1 3 3
1871, ...	61,935	5,965	1,131	4,547	24,513	25,779	50,292	53,378	1 3 6
1875, ...	61,963	5,934	1,135	4,575	21,245	26,074	50,319	81,110	1 9 9

The last line gives the corrected returns made by Mr. Cadell in 1875. The parganah was divided into three circles for the purposes of assessment in 1871. All the nine estates placed in the first class are situated in the central portion of the parganah to the south of the sandy plain and to the north of the tract in which the land begins to slope perceptibly towards the east Kāli nadi. These estates are all well irrigated and are chiefly cultivated by Jāts and Sainis. The forty estates comprising the second-class are situated in all parts of the parganah except the extreme south-west, which is occupied entirely by the third-class. In this last class, comprising 15 estates, four adjoin the sand plain on the north, and the remainder are in the south-west corner, where a sandy upland, swamped fields along the river and a less industrious population make the estates less productive. The soil areas of the parganah in 1872 are given at page 351. Of the crops grown in these soils, the *khartf* or rain-crops cover 55 per cent. of the total area, and amongst them sugar-cane occupies 6·3 per cent. of the total area; cotton, 3; *munji* or fine rice, 2·7; common rice, 2·7; fodder crops, 7·7; *urd*, 11·2; and *bājra*, 11·3. In the *rabi* wheat occupies 26·5 per cent. of the total cultivated area, or if *dofasli* cultivation be included, 27 per cent., gram, 5·5; barley, 6·2; wheat and gram, 1; and *gojai* or mixed barley and wheat, 3 per cent.: so that in the *rabi*, the best crops occupy 42·2 per cent., out of a total *rabi* cultivation of 44 per cent. on the total area. The increase in cultivation during the last thirty years is very small, for as both the assessment in 1841 and that in 1863 were made immediately after seasons of drought, much land cultivated in ordinary seasons must have been entered as fallow. Irrigation, though general thirty years ago, has trebled since then, and the canal has to such an extent superseded wells that whereas in the central tract lying between the sandy plain on the north and the poorer estates to the south 3,433 acres were watered in 1840-41; only

one-third of this area is now watered from wells and tanks, whilst the total irrigation has risen to 12,265 acres. Here, as elsewhere, the substitution of canal for well water has released both men and cattle for other work, so that the competition for land has raised the rents of this tract higher than in estates of perhaps equal fertility and with equal facilities for irrigation to the north-east. Though the population has not increased, the canal water has had results similar to those which would have been caused by a substantial increase both to the numbers and wealth of the population. To the south of the pargana, *kuchcha* wells can be constructed where the canal distributaries do not run. Altogether perhaps there is no pargana in the district in which the area watered from canals advances so rapidly in seasons of drought and falls so much when the necessity for artificial irrigation ceases.

Owing to the destruction of records, materials do not exist for tracing the history of the settlements previous to that made by Mr. Thornton in 1840-41; his assessment was very moderate and his estimate of the rental low, especially when it is considered that Jansath was to some extent less absolutely dependent on irrigation than its neighbours. Mr. Grant's assessment made but little enhancement, and during the currency of both those revisions it was not found necessary to have recourse to coercive processes for the recovery of the land-revenue. The rent-rates assumed by Mr. Cadell in 1871 were as follows:—

			Irrigated.						Dry.					
			Bārah.			Loam.			Sandy loam.			Loam.		
			Rs. a. p.			Rs. a. p.			Rs. a. p.			Rs. a. p.		
1st circle,	...	...	12	0	0	6	12	0	4	8	0	3	6	0
2nd "	...	...	9	0	0	5	10	0	3	12	0	3	0	0
3rd "	...	...	9	0	0	4	8	0	3	6	0	2	10	0

The application of these rates to the soil areas gave an assumed rental of Rs. 1,81,698, or Rs. 96,060 in excess of the rental of 1841, and Rs. 72,439 above that of 1863, and after allowing ten per cent. for sparsely populated and ill-cultivated estates an assumed rental of Rs. 1,64,696 gives an increase of Rs. 79,058 over that of 1841, of which sum, Mr. Cadell credits Rs. 10,000 to increased cultivation and the remainder to increased irrigation. The revenue indicated by the applied rent-rates shows an increase of Rs. 24,018 over the revenue of 1841, and of Rs. 22,532 over the revenue of 1863. The revenue, in 1841, amounted to Rs. 57,092; this was raised, in 1863, to Rs. 58,578, and this, after remissions and additions, stood at Rs. 59,378 in 1871. The actual assessment made amounted to Rs. 81,110 and came into force from 1872-73.

According to the census of 1872 parganah Jauli Jánsath contained 55 inhabited sites, of which 8 had less than 200 inhabitants; 20 had between 200 and 500; 21 had between 500 and 1,000; three had between 1,000 and 2,000; and two had between 2,000 and 3,000. One town, Jánsath itself, had over 5,000 inhabitants. The settlement records show that there were then 63 estates on the register. The total population in 1872 numbered 37,097 souls (17,042 females), giving 382 to the square mile. Classified according to religion, there were 24,637 Hindús, of whom 11,191 were females, and 12,460 Musalmáns, amongst whom 5,851 were females. Distributing the Hindu population amongst the four great classes, the census shows 1,033 Brahmans, of whom 462 were females; 209 Rajpúts, including 90 females; 1,759 Baniyas (823 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 21,636 souls, of whom 9,816 are females. The principal Brahman subdivision found in this parganah is the Ganr, numbering 1,032 souls in 1872. Baniyas belong for the most part to the great Agarwál (897) and Saraugi (754) subdivisions. Amongst the other castes the principal are the Taga (136), Budhi, Kahár, Chamár (6,707), Garariya, Kumhár (859), Hajjám, Sonár, Jogi, Kalál, Khúkrob (1,130), Ját (2,363), Banjára, Gújar (2,030), and Saini (3,133). The Musalmáns are distributed amongst Shaikhs (9,864) and Sayyids (2,182). The extreme north-west portion of the parganah, Jauli and the adjacent villages, is still held by a colony of Gardezi Sayyids who appear to have settled here long before the Sayyids of the Bárha. These last settled about eight generations before the reign of Akbar in the now pretty village of Dhasri, from which the four tribes, Kundliwál, Tihanpuri, Chhatrauri and Jagneri, are said to have gone forth. The Tihanpuri branch alone remained in Dhasri and the adjoining village of Kamhera until they took possession of Jánsath, and although in subsequent alterations of the parganah boundaries, the single Jagneri village in the Bárha, one Kundliwál and several Chhatrauri villages came to be included in Jauli-Jánsath, this parganah was always and is still, with the exception of the north-west corner, essentially a Tihanpuri one, and during the reigns of Sháhjahán and Alamgír it gave governors and ministers to the Empire, whose occupation is still shown by the presence of well-built mosques, fallen tombs and ruined towns.¹ Notwithstanding the losses brought upon them by the victorious faction during the reign of Muhammad Sháh and the subsequent troubles during which the Patháns ruled the district, the Sayyids, at the conquest in 1803, still retained a considerable portion of the parganah, and the transfers that have since taken place have chiefly been amongst themselves. The chief exceptions to this rule are the Khátauli estates transferred to this parganah and purchased

¹ From a note by Mr. A. Cadell.

by the Marhal Nawáb of Karnál. Although, during the last thirty years, one-third of the parganah has changed hands, Sayyids still remain owners of nearly three-fourths. The Tálra money-lenders, once servants of the Jánsath Sayyids, and through them the money-lenders of Jánsath itself, are the principal land-holders next to the Sayyids. Játs have held their own in one and acquired five villages since 1841, and the Shaikhs of Khorí Kuraishi still retain portions of three villages. Here, as elsewhere throughout the district, transfers, for the most part, have been due to causes entirely independent of the incidence of the Government demand, and have been most important in estates owned by families which once held a high position. During the last nine years the average rate obtained at both private sales and mortgages for land in this parganah has increased from Rs. 7-0-6 (1841 to 1861) to Rs. 17-5-6 (1862 to 1870) per acre, and from Rs. 7-1-6 to Rs. 15-3-9 per rupee of the land-revenue, which would show that the value of land has almost doubled.

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 167 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 1,636 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 700 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 5,534 in agricultural operations; 1,515 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 2,506 persons returned as labourers and 225 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 504 as landholders, 14,947 as cultivators, and 21,646 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 938 males as able to read and write out of a total male population numbering 20,055 souls.

This parganah represents portions of the old Akbari parganah of Jauli, which, in 1816, had 19 villages. Jánsath was formed from Jauli during the reign of Farrukhsiyar. At the rectification of boundaries in 1854-55 it was thus re-constituted: Jauli Jánsath, 33 estates; Bhúma, 4; Sambalhera, 2; Muzaffarnagar, 3; Bhukarhori, 7; Púr, 3; Khútauli, 4; Hastinápur, 6; and from parganah Saháranpur in the Saháranpur district one estate assessed at Rs. 200. The bulk of the parganah still belongs to three of the principal remaining families of the Bárha Sayyids whose history has been traced in the district notice.

JAULA, a village in parganah Budhúna of the Muzaffarnagar district, is distant 22 miles from the civil-station, $13\frac{1}{2}$ miles from Bhawáni in the Meerut

district, and $14\frac{1}{2}$ miles from Shámli. The population in 1872 numbered 3,496 souls, three-fourths of whom were Rángar Musalmáns. There is an enoamping-ground here with plenty of water, and supplies are procurable from Budhána and the neighbouring villages. From Bhawáni the country is open, level and well cultivated, and the road is very tolerable. The road passes Golka at three miles; the Hindan by a ferry at $5\frac{1}{2}$ miles; Nagwa at $6\frac{1}{2}$ miles; Kurthal at $8\frac{1}{2}$ miles, and Bilanda at 10 miles. Hence to Shámli the road and country are of the same character, but more subject to inundation during the rains. The road passes through the lands of Saráí, Lúí, Phugána, Khara Mastán and Hasanpur; it crosses the Krishni by a bridge at Jhál ($9\frac{1}{2}$ miles) and passes through Tájpur and Gágharpur to Shámli. The houses in Jaula are built of

The site.

mud with the exception of the *garhi* or 'fort,' the residence of the proprietor's agent. The land on three sides consists of the light friable soil known as *rausli*, and on the fourth side is sandy (*bhúr*). The site is raised, but much broken by excavations full of stagnant water in the hot-weather, and is badly kept, especially in the Chamárs' quarters. The well water is found at a depth of 35 feet from the surface. The Musalmán residents are a turbulent race, and in the mutiny joined the rebel cause, for which those who were landowners forfeited their proprietary rights. They joined Khairáti Khán of Parasauli in rebellion and for some time defied all the troops sent against them. At length on the 14th of September they attacked, in force, a party proceeding to Budhána, but were at once driven back with great loss, and the village was entered at the point of the bayonet. The main body of the rebels escaped amongst the high crops, but left about two hundred dead on the field. The proprietary right in the village has been conferred upon Sayyid Indád Husain of Tisang for services rendered in 1857.

JAULI, an important village in parganah Jauli-Jánsath of the Muzaffarnagar district, is distant 9 miles from the civil station. The population in 1865 numbered 3,000 souls, of whom the greater portion were Musalmáns; in 1872 there were 2,107 inhabitants. The Panhara distributary of the Ganges canal runs close to the village site. The water in the wells, now 16 feet from the surface, used to be at a depth of 30 feet. On the whole the site is badly drained, and numerous excavations contain pools of stagnant water which must in a great measure have given rise to the malarious fevers from which the people have suffered so much. High crops, want of cleanliness and bad drainage, here as in many other of the large villages in this district, must be charged with the unusual sickness which has been so rife of late years. The village is squalid and filthy in appearance, consisting of mud huts, separated by narrow, irregular, tortuous lanes which are unmetalled and undrained. The Ganges canal runs close to the town on the west, the Anúpsahr branch is on the south, and canal channels pass it on the east and north. There is a branch post-office here.

JHANJHANA, a town in parganah Jhanjhana of the Muzaffarnagar district, is distant 30 miles from Muzaffarnagar. In 1847 the population was 5,662, in 1853 there were 5,531 inhabitants, and in 1865 there were 5,334. The population in 1872 numbered 5,116 souls, of whom 2,929 were Hindus (1,392 females) and 2,187 were Musalmáns (1,056 females). The Chaunkidári Act (XX. of 1856) is in force in Jhanjhana, and in 1872 supported a village police numbering 17 men of all ranks at an annual cost of Rs. 984, besides a few sweepers. There is a second-class police-station and a post-office here. The total income from all sources in 1872-73 was Rs. 1,977, giving an incidence of Re. 0-1-8 per head of the population and Re. 1-5-3 per house. During the same year the number of houses assessed was 1,135 and the expenditure was Rs. 1,953. The site of the town was formerly a brick fort covering about 29·3 acres. The surface

The site. soil is heavy, retentive and clayey, and yields fair crops of rice and sugar-cane in the rains and in the spring gives wheat and gram. To the north-west flows the Kátha nadi at a distance of about a quarter of a mile and forms the drainage line; on the east is a canal channel, and near it a drainage cut from Bhainswál. Good drinking water is procurable from masonry wells, in which the water is at a good depth from the surface in the higher parts of the town, but rises to ten feet in the low ground and approaches close to the surface in the rains. Water-holes open and full of impurities exist all round, and in the rains from Jhanjhana to Shámli in one direction and to the Jumna on the west in the other, the whole country is often under water. The entire town is very filthy, and fever, small-pox and cholera are all common diseases.

JHANJHANA, a parganah of the Shámli tahsil of the Muzaffarnagar district, is bounded on the north by the Saháranpur district; on the west by parganah Thána Bhawan; on the east by parganah Bidanli; and on the south by parganahs Kairána and Shámli. According to the census of 1872, this parganah had then a total area of 93 square miles and 595 acres, of which 51 square miles and 557 acres were under cultivation. The area assessed to Government revenue during the same year was 82 square miles and 448 acres, of which 44 square miles and 512 acres were cultivated, 24 square miles and 218 acres were culturable, and 13 square miles and 358 acres were barren.

Jhanjhana lies to the north-west of the district and is intersected by the Kátha nadi, which takes a course south-west through the parganah and enters the Jumna in parganah Kairána. To the north is a cluster of small villages rather high, with a light sandy soil and water at a great depth. Towards the south, the soil improves, and in the south-east resembles in fertility the neighbouring parganah of Shámli. To the west of the Kátha the villages resemble those of the Bidanli parganah in every respect. To the north-west, cultivation is backward and the face of the country is

shrouded with high *dhák* jungle, the retreat of predatory Gújars; the soil, however, is naturally good and up to the average of the district. To the south-west the soil is barren and there are few inhabited villages. Roads connect Jhanjhána with Bidauli, Shámli, and Thána Bhawan. Gújars are the prevailing caste to the west of the Kátha and Játs to the east, with a fair sprinkling of Rorhs, Shaikhs, and Patháns. The villages are for the most part held in *bháyachára* tenure; there are only three *zamindári* villages, and these lie in the Gújar tract about Alauddiapur. Jhanjhána suffered much from drought in 1860-61 and its attendant, cholera. The former settlement was made by Mr. E. Thornton and the revision was effected in 1862 by Mr. A. Colvin.¹ The old assessment

Fiscal history.

worked well as a whole, though the trans-Kátha villages seem to have been somewhat over-assessed and required relief at the revision. The eastern Jumna canal sends several distributaries into the eastern portion of the parganah. In 1841, the irrigated area was 1,151 acres in 9 villages, in 1862 it rose to 3,653 acres in 16 villages, and in 1872-73 the area irrigated amounted to 5,249 acres.

Transfers.

The transfers during the currency of the old settlement (1841-61) amounted to 9,078 acres, or about one-fifth of the total area, and the selling price in forced sales averaged from three to four years' purchase of the land-revenue and in private sales about five times the land-revenue. Money-lenders purchased about one-fourth of the land sold. Mahájans alone bought in 2,624 acres. Játs lost 3,102 acres, Afgháns 1,445, and Gújars 1,909 acres. Játs, Gújars, Rajpúts, Mahájans, Patháns, Shaikhzádahs, and Bilúches are still the principal castes amongst the proprietary body.

The following statement shows the statistics of the land-revenue at the Land-revenue. past and present settlements:—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a. p.
1848, ...	59,782	5,186	7,592	17,429	...	...	29,575	63,056	2 2 1
1862, ...	57,436	9,040	4,399	18,986	19,308	5,703	25,011	55,698	2 4 3

The land-revenue for 1872, according to the census returns, amounted to Rs. 58,638 (or with cesses, Rs. 69,440), falling at a rate of Re. 0-15-7 per British

¹ Mr. Cadell recommended only five estates in this parganah for permanent settlement.

acre on the total area, at Re. 1-1-9 per acre on the area assessed to Government revenue, and at Re. 1-12-3 per acre on the cultivated area. The sum paid by cultivators to the landowners as rent and cesses during the same year has been estimated at Rs. 1,24,724.

According to the census of 1872, parganah Jhanjhāna contained 53 inhabited sites, of which 16 had less than 200 inhabitants; 17 had between 200 and 500; 11 had between 500 and 1,000; 6 had between 1,000 and 2,000; one had between 2,000 and 3,000; and one had between 3,000 and 5,000. The only town containing more than 5,000 inhabitants is Jhanjhāna itself with 5,116. The settlement records show that there were 65 estates on the register in 1863. The total population in 1872 numbered 36,090 souls (16,498 females), giving 381 to the square mile. Classified according to religion, there were 28,520 Hindūs, of whom 12,899 were females, and 7,540 Musalmāns, amongst whom 3,599 were females. Distributing the Hindū population amongst the four great classes, the census shows 2,657 Brahmans, of whom 1,208 were females; 1,025 Rājputs, including 436 females; 2,141 Baniyas (969 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 22,727 souls, of whom 10,286 are females. The principal Brahman subdivision found in this pargana is the Gaur, which gave 2,522 members in 1872. The Rājputs belong principally to the Gaur (869) and Baranwār clans, and the Baniyas to the great Agarwāl (2,107) subdivision. The most numerous amongst the other castes are the Budhi, Kahār, Chamār (3,510), Garariya, Julāha, Lohār, Kumhār, Hajjān, Sonār, Jogi, Kalāl, Chhāpī, Māli, Khākrob (1,601), Jāt (4,678), Banjāra (401), Gūjar (684), and Rorh (504). The Musalmāns are distributed amongst Shaikhs (6,524) and Sayyids (401).

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 263 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 1,395 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c; 1,063 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 4,510 in agricultural operations; 2,044 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 2,629 persons returned as labourers and 488 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 629 as landholders; 11,244 as cultivators; and 24,217 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 941 males as able to read and write out of a total male population numbering 19,592 souls. Jhanjhāna

represents portions of the old Akbari parganah of that name. Numerous changes have taken place in its constitution. In 1840-41 two villages were received from parganah Nánauta, one each from Rámpur and Nakúr, two from Gangoh, five from Thána Bhawan, and nine from Chaunsat Kheri, all assessed at Rs. 10,944.

KAIRANA, a town in parganah Kairána of the Muzaffarnagar district, is distant 31 miles from Muzaffarnagar. The population of Kairana numbered 11,470 in 1847. In 1853 the numbers were 15,162, and in 1865 they were 16,953. In 1872 there were 17,742 inhabitants; of whom 7,817 were Hindús (3,767 females) and 9,925 were Musalmáns (4,858 females). Distributing the population amongst the rural and urban classes proper, the returns show 1,140 landholders, 1,899 cultivators, and 14,703 following occupations unconnected with agriculture. The number of enclosures in 1872 was 2,036, of which 855 were inhabited by Hindús and 1,181 by Musalmáns. The number of houses during the same year was 4,258, of which 2,367 were built by skilled labour, and of those 1,024 were inhabited by Hindús and 1,343 by Musalmáns. Of the 1,891 mud huts in the town, 865 were occupied by Hindús and 1,026 by Musalmáns. Taking the male adult population (not less than fifteen years of age), we find more than fifty of them engaged in the following occupations:—Barbers, 77; beggars, 156; blacksmiths, 50; bullock-dealers, 56; cultivators, 695; dyers, 52; labourers, 1,324; landowners, 368; merchants, 92; oil-makers, 87; porters, 70; purohits, 94; servants, 311; shop-keepers, 890; shoe-makers, 281; sweepers, 113; toy-makers, 66; washermen, 64; and weavers, 512. All other trades found in a good commercial town exist here. The same returns show only 908 males out of the whole population as able to read and write.

The site is partly on the *khádír* or lowland of the Jumna and partly on the bank separating the *khádír* from the *lángar* or upland.

Site. A great number of the houses are built of bricks and are much crowded together. The streets also are very narrow and tortuous. The bazar is well paved and clean, but the remainder of the town is very filthy and sanitation is much neglected. The butchers' quarter is especially dirty and uncared for. The water is found in the wells at from ten to fifteen feet from the surface, and in the bazar at 25 feet, with a depth of eight feet. Though there is no canal irrigation in the neighbourhood, there is much irrigation from wells by means of the Persian wheel in the low-lying lands to the west of the town.

Kairána possessed a municipality during 1874-75, the affairs of which are managed by a committee of twelve members, of whom four are official and the remainder are elected by the tax-payers. The octroi during the year fell at Rs. 0-7-5 per head of the

Municipality.

population. The following statements show the imports, consumption per head, and the receipts and expenditure for the year 1874-75 :—

Statement showing imports in 1874-75.

Articles.	IMPORTS IN 1874-75.		CONSUMPTION PER HEAD IN 1874-75.	
	Quantity	Value.	Quantity.	Value.
	Mds.	Rs.	Mds s. c.	Rs.
Grain,	122,061	...	6 35 7	...
Sugar,	11,069	...	0 26 6	...
Ghi,	950	...	0 2 2	...
Other articles of food,	12,141	6,202	besides head-loads,	...
Animals for slaughter,	2,833 No.	...	...	...
Oil and oil-seeds,	7,164	...	0 15 1	...
Fuel, &c.,	190	4,988	0 0 3	0 4 6
Building materials, ... ..	...	9,786	...	0 8 9
Drugs and spices, ... ..	...	11,867	...	0 13 9
Tobacco,	8,228	...	0 18 8	...
European and native cloth, ... ..	...	52,790	...	2 14 0
Native shoes, ... ..	...	1,761	...	0 1 7
Metals,	40 1/2	...	0 0 15	...

Statement showing receipts and expenditure in 1874-75.

Receipts.	1874-75	Expenditure.	1874-75.
	Rs.		Rs.
Opening balance,	3,886	Collections,	1,463
Class I.—Food and drink,	5,626	Head-office,	108
" II.—Animals for slaughter,	268	Supervision,	110
" III.—Fuel, &c.,	628	Octroi works,	4 1/2
" IV.—Building materials,	163	Repairs,	3,604
" V.—Drugs and spices,	299	Police,	2,518
" VI.—Tobacco,	279	Education,	418
" VII.—Textile fabrics,	829	Charitable grants,	92
" VIII.—Metals,	118	Conservancy,	1,109
Total Octroi,	8,210	Miscellaneous,	146
Rents,	53		
Fines,	108		
Pounds,	168		
Extraordinary,	369		
Total,	12,794	Total,	9,998

At the accession of Sháhjahán, Kairána and the surrounding country was given in *jágir* to Doctor Munkarrab Khán,¹ who built many edifices and laid out a beautiful garden with a large tank. He obtained excellent fruit trees from all parts of India, and the Kairána mangoes were, according to the *Muásir*, long famous in Dehli.

¹ See district notice under "History."

Mukarrab Khán constructed a *dargáh* near the tomb of the famous saint Bú Ali Kalandar of Pá nipat, and died at the age of ninety. He was succeeded by his son Rizk-ullah Khán, who died in 1668 A.D. The tomb itself of the saint was built by Rizk-ullah in 1660 A.D. The local poet Sadullah, known as *Musíh-i-Kairánawi*, was the adopted son of Mukarrab Khán.

KAIRÁNA, a parganah of the Shámli tahsíl of the Muzaffarnagar district, is bounded on the north by parganahs Bidauli and Jhanjhána; on the west by the Jumna river; on the east by parganah Shámli; and on the south by parganah Kándhla. According to the census of 1872, this parganah had then a total area of 89 square miles and 589 acres, of which 53 square miles and 320 acres were under cultivation. The area assessed to Government revenue during the same year was 88 square miles and 505 acres, of which 52 square miles and 294 acres were cultivated, 26 square miles and 156 acres were culturable, and 10 square miles and 58 acres were barren.

Kairána lies to the south of Bidauli on the Jumna. It is intersected by the Kátha nadi, which after a course somewhat south-west through the northern portion of the parganah, joins the Jumna nearly opposite the town of Kairána. The group of villages to the north of the Kátha, bordering on Bidauli, are in every respect bad and resemble those to the north in their indifferent soil and careless cultivation. To the south of the Kátha the villages of the Kairána uplands though they have a poor soil, yet have abundant means of irrigation and a large population. The villages in the Jumna *kháls* are, however, the richest and the spring crops here are very fine. Kairána is connected by roads with the Panjáb, Shámli, Jhanjhána, and Kándhla. The Gújar is the prevailing caste both amongst the proprietors and agriculturists. The former assessment was very light, and to this may be attributed the comparative prosperity of the parganah. Mr. Colvin says the new assessment is less than what might be fairly demandable, for where the fair demand gave an excessive increase over the existing revenue he went "somewhat below it, believing that a sudden shock to the landlords and change in their means of subsistence would inevitably lead to distress and degrade them from the position of comfort and independence" in which he found them.²

Transfers in this parganah during the currency of the old settlement (1811-61) amounted to 6,230 acres, less than one-eighth the total area. The selling value in forced sales was about seven times the annual land-revenue, and in private sales it rose to eight times the revenue. Mahájans succeeded in obtaining possession of nearly one-half (2,819 acres) of the land transferred, the remainder chiefly falling into the

¹ Proc. As., Soc., Ben., May, 1873, p. 97.
the whole tract from permanent settlement.

² Mr. Cadell recommended the exclusion of

hands of men of the vendor's caste. Gájars lost 4,617 acres and Shaikhzádahs 685 acres, but the former recovered nearly one-half of their losses.

The following statement shows the statistics of the land-revenue at the past and present settlements :—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a. p.
1848 ...	55,210	5,733	4,226	16,136	818	28,208	29,116	49,570	1 11 2
1862 ...	57,545	6,301	1,096	16,506	24,935	8,707	33,642	62,371	1 8 10

The land-revenue for 1872, according to the census returns, amounted to Rs. 53,606 (or with cesses, Rs. 62,101), falling at a rate of Ro. 0-14-11 per British acre on the total area, at Ro. 0-15-1 per acre on the area assessed to Government revenue, and at Ro. 1-9-1 per acre on the cultivated area. The sum paid by cultivators to the landowners as rent and cesses during the same year has been estimated at Rs. 1,10,876.

According to the census of 1872, parganah Kairāna contained 40 inhabited villages, of which 10 had less than 200 inhabitants; 16 had between 200 and 500; 7 had between 500 and 1,000; four had between 1,000 and 2,000; two had between 2,000 and 3,000, and one, Kairāna itself, had 17,742. The settlement records show that there were 57 estates on the register in 1863. The total population in 1872 numbered 38,828 souls (18,045 females), giving 431 to the square mile. Classified according to religion, there were 20,535 Hindús, of whom 9,516 were females, and 18,293 Musalmáns, amongst whom 8,529 were females. Distributing the Hindu population amongst the four great classes, the census shows 1,922 Brahmans, of whom 881 were females; only one family of Rajpúts, 3,058 Baniyas (1,443 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 15,551 souls, of whom 7,189 are females. The principal Brahman sub-division found in this parganah is the Gaur, numbering 1,922 souls in 1872. The Baniyas all belong to the great Agarwál sub-division. Amongst the other castes which occur here, the most numerous are the Kahár, Chamár (2,838), Garariya, Juláha, Lohár, Kumhár, Sonár, Hajjám, Jogi, Khákrob (1,728), Ját (129), Gájar (3,105), and Saini (325). The Musalmáns comprise Shaikhs (17,320) and Sayyids (321).

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age),

197 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 1,298 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 1,420 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 5,323 in agricultural operations; 2,152 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 2,274 persons returned as labourers and 444 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 3,902 as landholders, 9,973 as cultivators, and 24,953 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 1,212 males as able to read and write out of a total male population numbering 20,783 souls. Kairána represents portions of the old Akbari parganah of the same name, but owing to interchanges with other parganahs, it would be difficult to restore it to its original size even at the commencement of the British rule. In 1816 it contained only 25 villages, assessed at Rs. 19,033. In 1840-41 it received two villages assessed at Rs. 400 from parganah Chaunsat Kheri in the Saháranpur district, and it also absorbed the old parganah of Títarwára, comprising eight villages.

KALÍANA, an observatory of the Great Trigonometrical Survey, on the right bank of the Hindan, close to the Chartháwal road in parganah Chartháwal of the Muzaffarnagar district, lies in lat. $29^{\circ}30'55''$ and long. $77^{\circ}41'33''$, at an elevation of 827.5 feet above the level of the sea. The upper markstone of the survey station is fixed within the observatory erected for the purpose of taking celestial observations. The village of Kachauli is to the north-north-east, 0.8 mile; Kasúri to the north-north-west, 1.8 miles, and Sayyid Nagla to the north-west, 0.7 mile. This height is deduced trigonometrically.

KÁNDHLA, a town in parganah Kándhla of the Muzaffarnagar district, is distant 33 miles from Muzaffarnagar. The population of Kándhla in 1847 numbered 7,062 souls, in 1853 the numbers were 10,130, and in 1865 they were 11,969. In 1872 there were 11,026 inhabitants, of whom 6,085 were Hindús (2,823 females) and 4,941 were Musalmáns (2,404 females). Distributing the population amongst the urban and rural classes proper, the returns show 844 landholders, 1,232 cultivators, and 8,950 persons following occupations unconnected with agriculture. The number of enclosures in 1872 was 744, of which 384 were occupied by Hindús and 360 by Musalmáns. The number of houses during the same year was 2,459, of which 1,095 were built by skilled labour, and of these 723 were inhabited by Hindús and 372 by Musalmáns. Of the 1,364 mud huts in the town 781 were occupied by Hindús. Taking the male adult population (not less than fifteen years of age), we find more than fifty of them engaged in the

following occupations:—Barbers, 83; beggars, 103; butchers, 61; cultivators, 523; labourers, 874; land-owners, 1,977; potters, 53; priests, 71; servants, 277; shopkeepers, 583; sweepers, 101; water-carriers, 53; and weavers, 292. Besides these there are the common trades usually found in a semi-agricultural town. The same returns show that only 532 males out of the whole population can read and write. The Musalmán quarter lies to the west end of the town. The site lies to the west of the eastern Jumna canal, between which and the town the land is low, with shallow water lying in places.

The site.

The larger streets are fairly kept, but in places there are numerous excavations and very many heaps of broken bricks and refuse which materially interfere with all proper sanitary arrangements. In the Musalmán quarter, the slaughter-houses are badly situated and require attention. The water in the wells is found at a depth of twelve feet from the surface. There is a second-class police-station and a post-office here, and for the last ten years a small trade in the manufacture of saltpetre has sprung up.

A municipality was established in Kāndhla in November, 1873, and its affairs are now managed by a committee comprising fourteen members, of whom four hold office *ex-officio* and ten are elected by the tax-payers. The incidence of the octroi in 1874-75 was Rs. 0-8-6 per head of the population. The following statements show the expenditure and receipts for four and a half months of 1873-74 and the entire year 1874-75 and the consumption per head during the same period:—

Statement showing import of taxable articles for 4½ months, 1873-74, and the year 1874-75.

Articles.	NET IMPORTS IN		CONSUMPTION PER HEAD IN					
	1874-75.		4½ months, 1873-74.		Year, 1874-75.			
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
	Mds.	Rs.	Mds s. c.	Rs. a. p.	Mds s. c.	Rs. a. p.		
Grain, ...	101,280	...	0 19 7	...	9 7 6	...		
Sugar refined, ...	6	...	0 1 12	...	...	...
Ditto unrefined, ...	10,524	...	0 29 15	...	0 38 3	...		
Ghi, ...	616	...	0 1 6	...	0 2 4	...		
Other articles of food, ...	22,695	4,634	...	...	...	...
Animals for slaughter, ...	821	...	...	...	...	...
Oil and oil-seeds, ...	2,942	...	0 1 9	...	0 10 10	...		
Fuel, &c., ...	41	2,017	...	...	0 2 0	0 2 11		
Building materials, ...	...	7,077	...	...	...	0 10 3		
Drugs and spices, ...	...	9,275	...	0 5 5	...	0 13 7		
Tobacco, ...	647	...	0 0 7	...	0 2 2	...		
European and native cloth, ...	...	34,570	...	1 13 2	...	2 6 8		
Metals, ...	228	...	0 0 3	0 0 8½	0 0 12	...		

Statement showing income and expenditure.

Receipts.	1873-74.	1874-75.	Expenditure.	1873-74.	1874-75.
	Rs.	Rs.		Rs.	Rs.
Opening balance, ...	950	609	Collection, ...	514	940
Class I.—Food and drink, ...	1,108	4,392	Head-office, ...	71	226
„ II.—Animals for slaughter, ...	67	157	a. Supervision, ...	27	90
„ III.—Fuel, &c., ...	110	356	b. Original works, ...	284	1,009
„ IV.—Building materials, ...	51	145	c. Repairs, ...	230	414
„ V.—Drugs and spices, ...	76	187	Police, ...	780	1,730
„ VI.—Tobacco, ...	24	87	Education, ...	—	89
„ VII.—Textile fabrics, ...	360	523	Charitable grants, ...	58	62
„ VIII.—Metals, ...	52	56	Conservancy, ...	285	723
			Miscellaneous, ...	15	63
Total Octroi, ...	1,818	5,903			
Fines, ...	84	100			
Pounds, ...	18	124			
Extraordinary, ...	34	6			
Miscellaneous, ...	...	38			
Total, ...	2,943	6,789	Total, ...	2,334	5,396

KÁNDHLA, a parganah of the Budhána tahsil of the Muzaffarnagar district, is bounded on the north-west by Kairāna; on the north-east by Shámli; on the west by the Jumna river; on the east by Budhána, and on the south by the Meerut district. According to the census of 1872, this parganah had then a total area of 106 square miles and 314 acres, of which 84 square miles and 90 acres were under cultivation. The area assessed to Government revenue during the same year was 102 square miles and 153 acres, of which 80 square miles and 217 acres were cultivated, 9 square miles and 115 acres were culturable, and 12 square miles and 460 acres were barren.

Kándhla lies to the south-west of the district and is intersected by the Karsuni or Krishni river on the east and the eastern Jumna canal on the west. Both have a course from north to south through the parganah. The villages to the east of the Krishni bordering on Budhána are rather high, but the soil is fertile; between the canal and the Krishni the soil is excellent; whilst to the west of the canal the soil, though somewhat inferior, is equal to the average of the neighbouring parganahs. A few villages here border on the Jumna, but there is very little *khádír* as the river runs between high banks. The only really poor land in the parganah is that situated on the slope leading from the uplands to the Krishni valley. A fair road runs from Budhána through Kándhla to Kairāna, and another from Shámli through Ailam to Bágpāt. The principal crop is wheat, but tobacco is also grown, and occasionally sugar-cane, which here often pays a rent of Rs. 18 per acre, whilst cotton pays Rs. 7-8-0 per acre. To the west of the Krishni there is a large

colony of Gújars "wonderfully transformed by the canal, and in some degree respectable themselves, though not the cause of respectability in others." They now find agriculture more profitable than thieving, and are a great contrast to their brethren in Bidauli. To the east of the Krishna the prevailing castes are Játs and Rajpúts settled in communities on the tenure known as bháyachára. In the whole parganah there number 51 against 17 pattidári and 10 zamíndári estates. The transfers from 1841 to 1861 amounted to 11,496 acres, or 17 per cent. of the total area. Only 2,714 acres, or 4 per cent. of the total area, changed hands by order of the civil courts. Játs lost 2,682 acres and Gújars lost 2,410 acres. Next to these come Rajpúts, Mahájans, Sayyids, Afgháns, and Shaikhzádahs. Mahájans lost 1,431 acres, but they bought in 6,330 acres. The Krishna prevents the extension of canal irrigation to the eastern half of the parganah, and the efflorescence of rehs, through its influence, has injured a few hundred acres on the lower level. Water to the west is near the surface and well-irrigation was formerly in much use. The average canal-irrigation at last

settlement was 816 acres, which rose to 10,078 acres in 1862. The following statement shows the statistics of the land-revenue at the past and present settlements:—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.	Rs.	Rs. a. p.
1848, ...	67,403	8,179	7,482	5,143	15,060	31,539	46,599	1,00,759	2 4 8
1862, ...	66,973	9,669	948	6,027	38,806	11,523	50,329	1,11,410	2 3 5

The land-revenue for 1872, according to the census returns, amounted to Rs. 1,13,050 (or with cesses, Rs. 1,37,008), falling at a rate of Re. 1-10-6 per British acre on the total area, at Re. 1-11-8 per acre on the area assessed to Government revenue, and at Rs. 2-1-7 per acre on the cultivated area. The sum paid by cultivators to the landowners as rent and cesses during the same year has been estimated at Rs. 3,28,122.

According to the census of 1872, parganah Kúndhla contained 57 inhabited villages, of which 11 had less than 200 inhabitants; 8 had between 200 and 500; 22 had between 500 and 1,000; 6 had between 1,000 and 2,000; 7 had between 2,000 and 3,000; and one had between 3,000 and 5,000. There are two towns possessing more than 5,000 inhabitants—Kúndhla with 11,026 and Gangeru with 5,117. The settlement records show that there were 78 estates on the register in 1863. The total population in 1872 numbered 63,859 souls (29,127 females),

giving 602 to the square mile. Classified according to religion, there were 48,975 Hindús, of whom 22,193 were females, and 14,884 Musalmáns, amongst whom 6,934 were females. Distributing the Hindu population amongst the four great classes, the census shows 4,471 Brahmans, of whom 2,035 were females; 1,110 Rajpúts, including 399 females; 4,805 Baniyas (2,119 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 38,589 souls, of whom 17,640 are females. The principal Brahman sub-division found in this parganah is the Gaur, numbering 4,304 souls in 1872. The Rajpúts belong for the most part to the Gaur (111) and Chhotiyana clans, and the Baniyas to the great Agarwál (4,665) sub-division. The principal castes amongst "the other castes" are the Budhi, Kabár, Chamár (6,282), Garariya, Juláha (1,267), Lohár, Kumbár (1,021), Hajjám (1,124), Sonár, Jogi (1,326), Máli, Khákrob (3,089), Ját (8,371), Gújar (4,932), and Saini (1,473). The Musalmáns comprise Shaikhs (13,062) and Sayyids (621).

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 494 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 2,276 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 1,750 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of animals or goods; 8,931 in agricultural operations; 3,433 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 3,759 persons returned as labourers and 814 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 3,906 as landholders, 20,910 as cultivators, and 39,013 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 1,733 males as able to read and write out of a total male population numbering 34,732 souls. Kándhla is an old Akbari parganah, which in 1816 comprised 41 villages, with an area of over 36,000 acres. It absorbed the old parganah of Gangeru, containing two villages, and Phugána with seven villages, in 1840.

KHATAULI, a town in parganah Khátauli of the Muzaffarnagar district, is distant $13\frac{1}{2}$ miles from Muzaffarnagar. In 1872, there were 6,409 inhabitants, of whom 3,688 were Hindús (1,613 females) and 2,717 were Musalmáns (1,288 females), and four were Christians. Khátauli is situated in lat. $29^{\circ}-17'$ and long. $77^{\circ}-46'-10''$, and is made up of two villages, Khátaula and Khátauli. It is a place of increasing importance as a commercial mart for the exchange of country produce. There are four Jain temples and a large colony of Jains engaged in commerce. The bazar is a good one with

The site,

a well-paved road, and owing to its proximity to the Sindh, Panjáb and Delhi Railway is always a busy place. There is a first-class police-station, a branch post-office, and a school here. The stone bench-mark of the Great Trigonometrical Survey is imbedded near the Khátauli bridge on the left bank of the Ganges canal, to the south-west of the Meerut and Ráurki road, and shows a height of 789·82 feet above the level of the sea. The canal escape to the Káli nadi runs to the west of the town site. It consists of a cutting about three and a half miles long and 30 feet in breadth, which in March, 1869, showed "a swamp from end to end and its bottom and sides covered with impenetrable jungle." The site is well kept and clean, and efforts have been made to improve the drainage; still, however, fever breaks out at the cessation of the rains for several months. The water now stands in the wolls at 11 feet from the surface where formerly it stood at 24 feet. Act XX. of 1856 (the Chankidári Act) is in force, and in 1872 supported a police force of 21 men at a cost of Rs. 1,224 per annum, besides a staff of sweepers. The total income from all sources in 1872-73 was Rs. 2,477, giving an incidence of Re. 0-5-5 per head of the population and Rs. 2-0-4 per house. During the same year the number of houses assessed was 1,081 and the expenditure was Rs. 2,187. Khátauli lies on the route from Meerut to Landour and is distant $10\frac{1}{2}$ miles from Daurála and $13\frac{1}{2}$ miles from Muzaffarnagar. The road throughout is metalled and bridged and the country is open, level and well cultivated. Supplies and water are plentiful at Khátauli and the encamping-ground is good and shady. From Daurála the road passes Jasratpur at $3\frac{1}{2}$ miles, Dádri at six miles, and Tigari at 9 miles. To Muzaffarnagar, the road crosses the Ganges canal close to Khátauli, thence by Bhainsi ($1\frac{1}{2}$ miles), Nanla, Akbarpur, Husainpur, Beopára, Bogharazpur, Wahalna and Sujra. Some account of the prices ruling in the bazar at Khátauli will be found under the district notice. Though a small town it is now one of the most rising in the district, and has already attracted a considerable number of enterprising Jaina grain-dealers to it. During the Bengal famine, Khátauli formed the outlet for all the surplus grain in the district and its railway-station presented a busy scene during the export season, as many Calcutta merchants had their grain stored here to await transport.

KHÁTAULI, a parganah of the Jánsath tahsil of the Muzaffarnagar district, is bounded on the north by parganah Muzaffarnagar; on the west by parganah Shikárpur; on the east by parganah Jánsath, and on the south by the Meerut district. According to the census of 1872, this parganah had, then, a total area of 97 square miles and 198 acres, of which 78 square miles and 557 acres were under cultivation. The area assessed to Government revenue during the same year was 81 square miles and 486 acres, of which 63 square miles and 602 acres were cultivated, 10 square miles and 102 acres were culturable, and

7 square miles and 422 acres were barren. The Ganges canal runs with a south-westerly course through the centre of the parganah, and the west Káli nadi forms its western boundary. The central tract is level and fertile and possessed

General appearance. of every advantage of soil, irrigation and population. It is covered with a net-work of canal channels, and every-

where villages imbedded amongst mango groves attest the industry of its Ját cultivators. In the north and east corner the land is somewhat broken near the Káli, and even when the level plateau is reached the soil is poor and sandy. This portion of the parganah gradually slopes towards the depression which forms the source of the east Káli river, and the river here intersects five estates and cuts off three, in the south-east corner, from the rest of the parganah. Parallel to and east of the river is a high ridge of sand which brings down the average quality of the estates through which it passes. From north to south a high belt of land, broken here and there by trifling tributaries of the Káli, runs through the parganah close to the river until near the southern boundary, where it branches into two lines of sand which enter the Meerut district. The villages along this ridge possess good land to the east of and up to the village site, and a small extent of high sandy soil, beyond which the country soon slopes down into the lowland of the river. Two other lines of sand come down the parganah from the north and continue as ridges for some distance; indeed, sand crops out, here and there, all through the parganah. These sand-hills do not, however, affect the slope of the country, nor do they, except in the north-east corner and to the east of the East Káli, interfere with the character of the cultivation. The Káli has, of late years, caused considerable damage to the villages on its bank, owing to its use as a canal escape. There is a slight depression to the south of the parganah which drains into the East Káli, and a little to the north are two other drainage lines which used to carry off the surplus waters from the neighbourhood of Khátauli and were in former days of some advantage to the cultivation, but the canal, besides depreciating the relative value of these depressions, has seriously injured the low-lying fields, and what with drainage obstruction and over-saturation, the state of the tract is such as to fully warrant the reclamation measures contemplated. In 1863, Mr. Grant noted that some damage had been caused by a stream called the Rawa having been used as a canal escape, thus turning a drainage channel into a perennial stream.

The soil of the parganah is, for the most part, a good loam, though sand occurs more or less. High cultivation, however, is slowly

Soils.

but surely overcoming in many portions of the parganah this occasional defect in the natural quality of the soil, and although 14.5 per cent. of the cultivated area in the assessed villages is dry sand and a similar area is dry sandy-loam or second *rausli*, in many of the highly cultivated villages, sand is gradually being eliminated from the records, and in this the poorest

of all soils, manure and water now enable the cultivators to grow the best crops. In the central tract, one-third was formerly irrigated from wells, and in 1861-62, canal irrigation had reached one-half of this area. In 1871-72 the area under irrigation from the Ganges canal amounted to 11,698 acres, and the total wet area was 30,416 acres, or 61 per cent. of the total cultivated area.¹ The crops grown in the *khair* were 59 per cent. of the total cultivation in 1872, and amongst them sugar-cane occupied 9·3 per cent. of the total cultivated area; cotton, 3·7 per cent.; maize, 2·2 per cent.; *munji* or fine rice, 2·7 per cent.; *dhán* or coarse rice, 4·7 per cent.; *jodr*, 2·3 per cent.; fodder, 12; *urd*, 7·5, and *moth*, 7·5. In the *rabi*, wheat covered 34·8 per cent. of the total cultivated area, and gram 4 per cent., whilst 2,848 acres were twice cropped, chiefly with gram, wheat and peas. In 1841 sugar-cane occupied 5 per cent. of the total cultivated area; cotton, 3 per cent.; coarse rice, 3 per cent., and wheat, 30 per cent. In 1863, sugar-cane occupied 11 per cent.; cotton, 3 per cent.; *dhán* 1·5 per cent.; *munji*, 1·5 per cent., and wheat, 26 per cent. From this it appears that the area under sugar-cane has nearly doubled and the rice-area has more than doubled and has also improved in quality. The parganah throughout is fairly wooded and contains 874 acres under regular plantations. In communications the parganah is singularly fortunate, possessing as it does good metalled roads, a railway and a navigable canal.

The settlement under Regulation IX. of 1833 was made by Mr. E. Thornton in 1840, and the revision was made by Mr. C. Grant in 1862, but his assessment was disallowed in 1863, and Mr. A. Cadell was directed to make a fresh revision, which was completed in 1873-74. The following statement gives the statistics of the three revisions as recorded by Mr. Cadell:—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.	Rs.	Rs. a. p.
1841, ...	62,228	8,013	7,699	8,200	10,812	27,504	38,316	65,879	1 11 6
1863, ...	62,278	6,548	8,899	6,467	19,886	20,478	40,364	66,311	1 10 3½
1871, ...	62,289	6,412	8,898	4,757	24,327	17,895	42,222	67,295	1 9 6
Mr. Martin, ...	59,683	6,548	6,304	6,467	19,886	20,478	40,364	66,311	1 10 3½
1874, ...	62,293	6,408	8,876	4,786	24,284	17,939	42,223	88,106	2 1 5

¹ Taking the revenue-paying area alone, irrigation has increased from 10,812 acres in 1841 to 19,886 acres in 1863 and to 24,327 acres in 1871, or 125 per cent., and of this 3,497 acres are watered from wells, 415 from tanks and rivers, and the remainder from the canal, of which, however, 6,900 acres would have been watered from wells: and so far the canal-power is wasted.

The fourth line gives the statistics taken from the parganah books of 1861 and the fifth line gives the figures of the returns made by Mr. Cadell in 1875. The difference is due to the inclusion in Mr. Cadell's figures of the revenue-free patches in assessed estates. The figures of 1871 show that the assessable area amounts to only 70 per cent. of the total area, and of it ten per cent. remains uncultivated, while 670 acres are under groves. Cultivation, however, occupies 63 per cent. of the total area, and has increased by 4,972 acres, or 13 per cent., since 1841. The soils of the cultivated portion of the area in 1871 are given at page 351.

It was on the soil statement and the proportional prevalence or otherwise of sand in the soil that Mr. Cadell mainly based his division of the parganah into three circles for the purposes of assessment. His first circle comprised 26 villages down along the central tract, containing only 3·5 per cent. of sand and having 95 per cent. of the culturable land under crops, and of this 84·5 per cent. was irrigable. In every way this is a most fertile and prosperous tract and is inhabited by the more industrious classes of cultivators, such as Jāts and Rawas. The lands immediately to the east and west of the first circle comprised the second circle, and also extended from north to south through the parganah. It contained 38 estates, with 12·5 per cent. of sand in the soil of the cultivated area, and the greater portion of the area was cultivated by tenants of the best classes. The third or worst circle comprised 24 estates situated chiefly in the south-east and south-west corners of the parganah, and, with the exception of three estates, inhabited by the less thrifty castes. The soil too is inferior, and, even though farmed by the most industrious peasantry, could hardly equal the average of the parganah. To these circles the following rates per acre were applied :—

Circle.	Bārah.	1st rausli.	2nd rausli.	Dry or 1st rausli loam.	Dry sandy loam or 2nd rausli.	Dry sand.
	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
1st circle, ...	12 0	7 2	4 14	3 12	2 10	2 0
2nd „ ...	12 0	6 0	4 8	3 6	2 4	1 8
3rd „ ...	9 0	5 4	3 12	3 0	2 0	1 2

with the result of a rental on the assumed rent-rates of Rs. 1,92,497. The rent-rates of Mr. Thornton's assessment in 1841 assumed assets¹ valued at Rs. 1,01,461, on which, at 65 per cent., Mr. Thornton assessed a revenue of Rs. 67,288. This would show that the rental has nearly doubled and that the rent-rates have risen 50 per cent. since 1841, were it not nearly certain* that the rates of the old settlement were very low. The real rise in rent has not

¹ The rent-roll assumed in 1863 was Rs. 1,22,997.

been more than 20 per cent., and in the best estates it has been less. But however slight the rise in the rent-rates may have been, the increase to the rental has been very great. Dry land has become irrigated, careful cultivation has been extended, sand has almost disappeared from many estates, and the number of highly farmed villages has increased. A great part of the increased rental is due to the canal, and taking its influence on the rental at the all-round rate of three rupees per acre, Mr. Cadell estimated the increase of the revenue due to the canal in this parganah at Rs. 17,000 on 10,812 acres. The assessment at half assets, given by the assumed rates, amounts to Rs. 94,785, being an increase of Rs. 27,497 over the assessment of 1841, and of Rs. 28,474 over that of 1863. "The increase," writes Mr. Cadell, "appears to be enormous, but the advance in prosperity made by the parganah has also been very great, and an assessment in exact accordance with the new rates would fall at rates which are fully justified by those of all adjoining parganahs in any way similar to Khátauli, whether situated in this district or in Meerut." The revenue ultimately assessed amounted to Rs. 88,106, falling at Rs. 2-1-5 per acre on the cultivated area,¹ and came into force from the revenue year 1872-73.

According to the census of 1872 parganah Khátauli contained 70 inhabited villages, of which 17 had less than 200 inhabitants; 20 had between 200 and 500; 22 had between 500 and 1,000; seven had between 1,000 and 2,000; and three had between 2,000 and 3,000. The settlement records shew that there were 88 estates on the register in 1863, of which 17 had no inhabited site, while two more have only been recently settled, and the hamlets in not a few of those that remain are quite recent colonies sent out by the strong village communities or more recently settled by the landlords. The total population numbered 49,267 souls (22,391 females) in 1872, giving 508 to the square mile. Classified according to religion, there were 36,896 Hindús, of whom 16,641 were females; 12,366 Musalmáns, amongst whom 5,750 were females; and five Christians. Distributing the Hindu population amongst the four great classes, the census shows 2,158 Brahmans, of whom 966 were females; 1,843 Rajpúts, including 1,843 females; 2,857 Baniyas (1,270 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 30,038 souls, of whom 13,662 are females. The principal Brahman sub-division found in this parganah is the Gaur, numbering 2,094 souls in 1872. The Rajpúts belong for the most part to the Gaur (856), Kaachhwáha (128), Surajbansi and Badgújar clans, and the Baniyas to the great Agarwál (2,253) and Saraugi (560) sub-divisions. Amongst the other castes, the most numerous are the Taga (906), Budhi, Kahár, Chamár (8,612), Garariya (1,072), Kumhár, Hajjám, Jogi, Bhangí (1,748), Ját (2,730),

¹ For further information on the assessment of this parganah see Revenue Rep., I. (N.S.), 152.

Gújar (1,695), Rorh (3,075), and Saini (2,820) castes. The Musalmáns comprise Shaikhs (10,537), Sayyids (873), and Mughals (28). The cultivating classes are chiefly Rawas, Játs, Tagas, Sainis, Gújars, and Rajpúts. The distribution of the land amongst the proprietary classes is given in the district notice. Sayyids still own one-fourth of the parganah, next comes the Marhal Nawáb of Karnál, and then Mahájans, Bohras, Rajpúts, Játs, Tagas, and Patháns in the order named. The Rajpúts are orderly and respectable, and the Gújars have, almost without exception, got canal-irrigated land to cultivate and pay high rates without difficulty. In 1863, owners cultivated 8,582 acres, occupancy tenants 19,565 acres, and tenants-at-will 12,127 acres; and in 1872 the numbers were, owners, 8,792 acres; occupancy tenants, 22,711 acres; and tenants-at-will, 10,718 acres, in the revenue-paying area.

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 239 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 2,293 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 1,416 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 1,763 in agricultural operations; 2,631 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 3,483 persons returned as labourers and 374 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 614 as landholders, 18,174 as cultivators, and 30,479 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 1,184 males as able to read and write out of a total male population numbering 26,876 souls.

Khátauli represents portions of the old Akbari parganah of that name. At the redistribution of villages, in 1854-55, it was constituted as follows:—From the old Khátauli parganah, 80 estates; from Muzaffarnagar, 2; from Púr, Bhukarheri, and Deoband in Saháranpur one each, and from Hastinápur in Meerut, 3; total, 88. Khátauli formerly belonged to the Mansúrpur and Khátauli branches of the Bárha Sayyids. The former still retains much of its old possessions, but a great portion of the parganah has of late years fallen into the hands of the Marhal Nawáb of Karnál. Khátauli formed a portion of the *jágír* granted by Sháhjahán to his Sayyid minister, Muzaffar Khán Khánjahán, and was owned, at one time, entirely by Sayyids, with the exception of a few Pathán villages transferred from Meerut and two revenue-free villages held by Shaikhs. From the time of Sháhjahán, the Mansúrpur branch of the Sayyids

old proprietary rights in the eighty estates then comprising the parganah. Of the eight estates added since 1841, three were owned by Patháns, two by a collateral branch of the Tihanpuri Sayyids, and three by the Sayyids of Ghálibpur, a branch of the Sambalhera family, and of the 88 estates now comprised in the parganah, Sayyids, therefore, owned 80. But before the conquest in 1803, and partly by purchase and partly owing to the decline of Sayyid influence, Rajpúts recovered eight villages in the south-east corner of the parganah where they once held a *chaubtsi* (24). The present head of this Rajpút colony is the Chandhri of Chandsona. Extravagance and debt commenced the ruin of the Sayyids. Some fifty years ago, eleven of their estates were sold and four more were purchased from them. In most of these cases native officials were the purchasers, but the cause is found in the high assessments that obtained and the unwillingness of capitalists to invest in land. Seven of these villages passed into the hands of the Ját and Taga cultivating communities and five of the remaining estates were bought from the native officials by the Ansáth Sayyids. Long before 1841, owing to the dishonesty of an agent, the Chátáuli Sayyids were obliged to mortgage sixteen of their best villages to a leerat Baniya, who transferred them to the Marhal Nawáb of Karnál, with whom they have remained, with the exception of those which the Játs of Maulaheri successfully claimed. Several others, also, of their best estates had passed away, so that practically the original proprietors had lost the greater portion of their possessions before 1841, and the sales entered in the district notice of transfers between 1841 and 1861 refer, for the most part, to sales of mortgaged property. Since 1841, the Mansúrpur branch has gone steadily to ruin, and it is not likely that its present representatives will retrieve its losses. In the south-east corner of the parganah, the Sayyids of Ghálibpur and the Patháns of Jasúola have succumbed to the Baniya, and the Sayyids of Kailawadha have lost a portion of their possessions by litigation. The Khinjáhánpur branch of the Mansúrpur house has survived the general wrock, the liabilities of the family having been provided for by a mortgage which has now expired. Another branch of the same family still owns a few minor villages and the Sarúí Sayyids retain half their old possessions. Altogether, though Sayyids have purchased largely, the Sayyids taken as a whole do not now own more than one-fourth of the parganah, and one-half of this is held by Sayyids who do not represent the original owners. Játs, Tagas, Patháns and Rajpúts have held their own since 1841 and lost little. Still nearly two-thirds of the area (38,197 acres) have changed hands between 1841 and 1871. During the last nine years of this period the average price per acre realised at private sales (Rs. 30-9-1) has been three times that received from 1841 to 1861 (Rs. 10-4-10), and the mortgage rate has risen double that of the same period, but, as in other parganahs of the district, by far the greater portion of the transfers seem to be in no way due to

the pressure of the Government revenue assessed at Mr. Thornton's settlement. "The steadily increasing value of land," writes Mr. Cadell, "when it can be attributed to peace, security and improved communications, is a matter for congratulation; but, in the case of this parganah, there can be little

Causes of increased value of land. question that the increased value is, in a great measure, due to causes which do not necessarily involve any large amount of administrative success—to the lower-

ing of the share of the assets taken by the supreme landlord (the State), to the division with the landlord of the profits arising from the construction of the Ganges canal by Government—and, to a less extent, to the abolition of the peculiar privileges of the tenants in the so-called *Sharah nakdi* villages. In these estates the entire management was left with the heads of the cultivating communities. The tenants had complete control over the waste land, village site, tanks and trees; they paid the revenue, cesses, and the profits of the landlord, amounting to 18 per cent. on the assessment, in a lump sum; and it was distinctly stipulated that if any tenant failed, the community must make good the loss: that the landlord's claim was against the community, not against the individual. When these tenants were reduced to the rank of ordinary occupancy tenants, when canal irrigation was supplied at rates which, according to the estimate of the Board of Revenue, added, even when the Government share of the enhancement is secured by revision of settlement, not less than one rupee per acre to the income of the landlord, when the Government share in the assets of the land was limited for all future time to one-half instead of the old two-thirds, it is not to be wondered at that the price of land should quickly rise. Whatever opinion may be held as to the good policy or otherwise of the measures which have caused the rise in the value of land, there can be little question that one result of the rise is, that the purchase by tenants of ordinary revenue-paying land is now almost as hopeless a matter as the acquisition of revenue-free land was 30 years ago."

The early fiscal history of the parganah is not now traceable, but although transfers may, in former days, have been due in

Fiscal history.

some measure to the rigidity of our collections, they cannot be attributed to the heaviness of the assessments. Mr. Thornton's assessments were generally moderate, and where heavy, as in the 18 per cent. villages, the cultivators, not the landlords, were responsible. In the very heavily assessed estate of Bhainsi there have been mortgages of occupancy rights, but the fact that tenants paying a high rental have broke down does not necessarily show that the Government assessment was too severe. Though successive droughts have passed over the parganah, but a few trifling suspensions of the State demand were found necessary as a relief. "Indeed, where the assessment has been so light, coercive processes could hardly have been required; and even

if they had been, they might very possibly not have appeared as such in any return. Coercive processes have become unknown, not because they are never required, but because they have been discouraged by the extreme attention which is now paid to figured statements. Even if a village broke down, no ordinary tahsildár would think of recommending sale or farm. He would bring the men in arrears into communication with capitalists; in other words, he would force the people to sell or mortgage: and the calamity which led to the arrear would cause an additional private transfer, but would leave no trace in any annual return."

KOTESRA, a village in parganah Chartháwal of the Muzaffarnagar district, is distant 11 miles from the civil station. There were 2,663 inhabitants in 1872, principally Musalmán Tagas. The houses are mud-built and many are surrounded by trees. The site is rather low, but the ways are wide, and there are a good number of Baniyas resident who carry on a trade in sugar. The well-water is good and is found at a depth of thirty-seven feet from the surface. Some decayed Sayyid families reside here, and on the south of the town is an old ruined fort which still belongs to them. "It is a remarkably large brick-built place with corner towers and cupolas, of which much remains; but the owner lives in a thatched shed set against the wall his fathers built." Kotesra possesses a school with a small attendance of pupils.

LOHÁRI, a large village in parganah Thána Bhawan of the Muzaffarnagar district, is distant 17 miles from the civil station. In 1865, the population numbered 4,309 souls, and in 1872 the numbers were 4,170, chiefly Musalmáns. The soil is light, sandy and porous, and grows, to the west, rice, and in the spring, wheat. There are a few mango groves. The Krishni nadi forms the drainage line and flows about three miles to the west, and on the east a canal channel affords some irrigation. Good drinking-water is obtained from masonry wells which give a level of twenty feet from the surface in high ground. The site lies within an old fort still surrounded by a ditch which retains much stagnant water. The people have suffered much from sickness, and here, as elsewhere, much attention is required to perfect the sanitation of the village. Fever and small-pox are the principal diseases, and occasionally cholera when epidemic in the district. There is a market-day every Wednesday. Formerly Lohári was a thriving town, it is now little better than a respectable agricultural village.

MANSURPUR, a village in parganah Khátauli of the Muzaffarnagar district, is distant 8 miles from the civil station. The population in 1865 numbered 2,450 souls and in 1872 there were 2,767 inhabitants. Mansúrpur is an agricultural village on a low site surrounded by rice and sugar-cane cultivation, and with numerous water-holes from which the earth for constructing the village huts have been taken. The water level in the wells varies from ten to eighteen feet from the surface with a depth of fifteen feet. A large water-hole on the west known as the "jbíl" leaves a large surface of mud exposed during

the hot weather which forms a pregnant source of fever. Mansúrpur is named after Sayyid Mansúr, the son of Khánjahán Tihanpuri, who received the parganah in *jágr* from Sháhjahán.

MYRÁNPUR, a town in parganah Bhúma Sambalhera of the Muzaffarnagar district, is distant 20 miles from the civil station of Muzaffarnagar. The population in 1853 was 5,574 and in 1865 was 6,043. In 1872 there were 5,924 inhabitants, of whom 3,883 were Hindús (1,895 females) and 2,041 were Musalmáns (971 females). The Chaulkidári Act (XX. of 1856) is in force, and in 1872 supported a village police numbering 21 men of all grades at a cost of Rs. 1,324 per annum, besides a staff of scavengers. The total income from all sources in 1872-73 was Rs. 3,191, giving an incidence of Re. 0-7-4 per head of the population and Rs. 2-14-9 per house. During the same year the number of houses assessed was 936, and the expenditure was Rs. 2,409. There is a first-class police-station and a post-office here. The Sayyids of Miránpur are descendants of Haidar Khán, son of Sayyid Sálár Chhatrauri, for an account of whom see the district notice under "History." Miránpur was held by Mr. Palmer during the close of the year 1857. On the 4th February, 1858, the Bijnaur rebels crossed the Ganges and attacked the town. The police-station was burned and three men were killed. On the arrival of troops from Janli, the rebels retreated, covering their rear-guard with a party of 250 mutineer cavalry. A little skirmishing took place, but with only one man wounded on the British side, whilst three rebels were killed and two were taken prisoners. The rebels expected the Sayyid zamíndárs to join them, but no man of importance did so.

MORNA, a village in parganah Bhukarheri of the Muzaffarnagar district, is distant 15 miles from the civil station. The population in 1865 numbered 810, and in 1872 there were 1,523 inhabitants. It is a dirty village situated in the midst of a sandy plain, with a great excavation filled with stagnant water on the west. The water level in the wells is 40 feet from the surface. Morna is celebrated for the manufacture of excellent blankets and a good breed of sheep. The Sayyids of Morna belong to the Chhatrauri branch of the Bárha Sayyids, for an account of whom see the district notice under "History." For services rendered to Muhammad Shah, members of this family received grants of land to the west of the Káli in Chartháwal. Up to the middle of the last century, Morna was the principal town in the parganah, but its proximity to the Pathán fort of Shukartár was fatal to its security. In 1759 and again in 1772 Shukartár was invested by the Marhattas, who made Morna their head-quarters, and on their departure reduced it to a small village, which it still remains.

MUZAFFARNAGAR, the head-quarters of the Muzaffarnagar district, is situated in the parganah of the same name in lat. 29°-28'-10" and long. 77°-44'. Muzaffarnagar in 1847 had 7,264 inhabitants, in 1853 the numbers were 9,646, and in 1865 they increased to 10,748.

Population.

The population in 1872 numbered 10,793 souls, of whom 6,560 were Hindús (2,792 females), 4,205 were Musalmáns (1,884 females), and 28 were Christians. Distributing the population amongst the urban and rural classes proper, the returns show 113 landholders, 343 cultivators, and 10,337 persons following occupations unconnected with agriculture. The number of enclosures in 1872 was 1,327, of which 751 were occupied by Hindús and 567 by Musalmáns. The number of houses during the same year was 2,646, of which 1,015 were built with skilled labour, and of these 757 were occupied by Hindús and 249 by Musalmáns. Of the 1,631 mud huts in the town, 895 were inhabited by Hindús. Taking the male adult population (not less than fifteen years of age), we find the following occupations represented by more than fifty male adults: Bakers, 51; beggars, 110; blanket-weavers, 85; butchers, 63; cultivators, 255; labourers, 736; landowners, 78; money-lenders, 51; porters, 51; potters, 74; servants, 1,330; shop-keepers, 561; shoe-makers, 52; sweepers, 66; and weavers, 163. Other occupations common in a small semi-agricultural town are also found. The same returns show only 1,007 males and two females out of the whole population as able to read and write.

Muzaffarnagar was founded by the son of Muzaffar Khán Khánjahán in the reign of the Emperor Sháhjahán about 1633 A.D. The Public offices, town itself is closely built and crowded with many small lanes having a very narrow roadway. There is a good dispensary, and the civil surgeon of the district resides here. The other public buildings are the district court and tahsílí offices, the jail and schools. There is a telegraph-office at the station of the Sínd, Panjáb and Dehli Railway, and passenger trains communicate twice daily with Meerut to the south and Sahárapur to the north. The stone bench-mark of the Great Trigonometrical Survey is imbedded on the north side of the post-office and near the general mile-post. It shows a height of 790·01 feet above the level of the sea.

The people have suffered very much of late years from malarious fever, due partly to the increase of moisture caused by the Sanitation, canals and partly to the natural unhealthiness due to inattention to cleanliness and drainage. In 1868, the roads and lanes were found to be much broken, and holes that retained the surface drainage water and open drains and cess-pools might be seen in every direction. Around the town there were many large excavations from which the mud for building the usual class of house had been taken and were then used for latrine purposes. To these causes and the cultivation of high crops close to the town the sickness for which this station was noted in 1868-70 was no doubt partly due. The canal must be charged with the rise in the water-level, but that the other causes mentioned above have contributed their share is shown by the remarkable fall in the fever-rate following on the prohibition of the growth of high rain-crops

and the use of irrigation near the town, coupled with the drainage of some of the more offensive water-holes. Since 1870, however, the drainage of the civil station and railway buildings has been effected to the Kāli nadi with much success; several streets have been paved with brick and more attention has been paid to conservancy arrangements, so that now it can compare favourably with most towns in the division. A new market-place has been built on a waste piece of land bordering the high road, and altogether Muzaffarnagar shows a marked improvement in many respects during the last five years. The encamping-ground for troops is situated on the left bank of the Kāli nadi, to the west of the civil station. Muzaffarnagar lies on the military route from Meerut to Landour; 13½ miles from Khātauli and 15½ miles from Deoband. From Khātauli the road is metalled and bridged and the country is open, level and well cultivated; the road passes from Khātauli over the Ganges canal by a bridge, thence by Bhainsi (1¾ miles), Naula, Husainpur, Begharazpur, Jakhrauda, Wahalna, and Sujra. From Muzaffarnagar the road is metalled for five miles and afterwards is heavy; leaving the Rūrki road at 4 miles, and crossing the Kāli nadi by a bridge at 5 miles and thence by Bahori and Ruhāna. Proceeding to Rūrki, the next stage is Pūr (16¾ miles); the road is metalled and bridged and passes through a well-cultivated country: it leaves the Sahāranpur road at 4 miles and passes by Sisauna, Chhapār (9 miles), Barla and Phalauda.

The municipality was established in November, 1872, and comprises a committee of twelve members, of whom four are official and eight are elected by the tax-payers.

The incidence of the octroi in 1873-74 was Re. 1-4-7 per head of the population. The following statements show the imports and consumption per head and the income and expenditure of the municipality for two years:—

Statement showing import of taxable articles for two years into Muzaffarnagar.

Articles.	Net imports in		Consumption per head in	
	1873-74.	1874-75.	1873-74.	1874-75.
	Value.	Value.	Value.	Value.
	Rs.	Rs.	Rs. a. p.	Rs. a. p.
Grain,	2,05,006	1,73,186	18 15 10	16 0 2
Sugar refined,	1,737	...	0 2 0	...
Ditto unrefined,	33,338	...	3 10 3	...
Ghi,	34,869	34,931	3 3 8	3 2 5
Other articles of food,	19,206	18,149	1 13 0	1 11 6
Animals for slaughter,	3,207No	4,389No.	½ per head.	½ per head.
Oils and oil-seeds,	21,633	11,912	2 0 3	1 1 8
Fuel, &c.,	5,791	4,615	0 8 7	0 6 8
Building materials,	29,298	30,803	2 11 5	2 13 8
Drugs and spices,	27,993	28,133	2 9 5	2 9 8
Tobacco,	12,815	12,765	1 2 11	1 2 11
European and native cloth,	1,40,971	1,46,263	13 0 11	12 6 4
Metals,	25,989	23,646	2 6 6	2 10 5

Statement showing the income and expenditure for two years.

Receipts.	1873-74.	1874-75.	Expenditure.	1873-74.	1874-75.
	Rs.	Rs.		Rs.	Rs.
Opening balance ...	5,048	4,817	Collection, ...	1,814	1,249
Class I.—Food and drink...	9,087	6,695	Head-office, ...	225	242
" II.—Animals for slaughter,	264	408	a. Supervision,...	294	312
" III.—Fuel, &c. ...	351	228	b. Original works,	4,176	4,518
" IV.—Building materials.	508	517	c. Repairs, ...	1,689	1,525
" V.—Drugs and spices	617	611	Police, ...	2,354	2,270
" VI.—Tobacco ...	285	266	Education, ...	192	163
" VII.—Textile fabrics	2,253	1,458	Charitable grants,	96	253
" VIII.—Metals ...	514	297	Conservancy, ...	1,592	1,606
Total Octroi ...	13,889	1,0480	Road-watering, ...	284	193
Rents ...	445	610	Lighting, ...	608	449
Fines ...	144	95	Miscellaneous,...	5,009	3,834
Pounds ...	364	589			
Extraordinary ...	3,076	...			
Miscellaneous ...	134	235			
Total ...	23,100	16,556	Total, ...	18,288	16,614

MUZAFFARNAGAR, a parganah in the tahsil of the same name in the Muzaffarnagar district, is bounded on the north by the Sahāranpur district; on the west by parganahs Charthāwal and Baghra; on the east by parganahs Pūr Chhapār and Bhukarheri, and on the south by parganahs Jānsath, Khātauli, and Shikārpur. According to the census of 1872, this parganah had, then, a total area of 108 square miles and 416 acres, of which 80 square miles and 173 acres were under cultivation. The area assessed to Government revenue during the same year was 92 square miles and 351 acres, of which 67 square miles and 390 acres were cultivated, 12 square miles and 339 acres were culturable, and 12 square miles and 262 acres were barren. The west Kālī nadi

General appearance. enters the parganah at Ruhāna Buzurg on the north, and, running to the south-west, forms for a short distance the western boundary and again flows due south. Close to the town of Muzaffarnagar, a belt of sandy hillocks runs down the centre of the parganah some miles east of the civil station. On both sides of these hills are some inferior *bhār* villages in which the sand continually shifts about from place to place. The thirteen villages situated to the west of the Kālī possess good soils in the level uplands, indifferent land on the slope, and fair fields for the most part along the river. To the south the land is tilled and in part owned by Jāts; well-irrigation is general, the farming is careful and masonry wells and mango groves abound under the security afforded to the Jāts by Mr. Thornton's settlement. The five estates to the north are uninhabited and are cultivated by non-resident tenants and possess little level land. Here the Taga owners and cultivators have not sunk masonry wells, and earthen ones are

difficult of construction and last but a short time. Altogether, with the exception of the Jât villages of Maulaheri and Luchaira, the estates are of middling or inferior quality. East of the Kâli, the slope towards the river is much more gradual, and towards the west and south, except where percolation from the canal has water-logged the soil, there is uninterrupted cultivation to the river. To the north of the parganah sand appears and prevails as the eastern boundary is approached. At some distance from the boundary the sand rises into the high ridge already noticed, and running from north to south diverges to the west, to form the southern boundary of the parganah. Between the estates adjoining this ridge on the west and those lying along the river are ten or twelve good estates which obtain a plentiful supply of canal water from the right main rajbaha and its four branches which intersect the parganah. To the east of the sandy ridge are ten estates, eight of which receive a fair supply of water from the canal, and altogether in by far the greater portion of the parganah the water-supply is good. In forming his assessments, Mr. Cadell placed twelve estates in the first class, ten of which lie between the second-class estates on the river and the second-class estates to the west of the sand ridge, and one lies to the extreme north of the parganah adjoining the sand ridge and another in the extreme south-east corner. The second-class, comprising sixteen estates, is fully irrigated, and in the third class, comprising thirty estates, are placed all those in which the water-supply is uncertain.

The settlement under Regulation IX. of 1833 was made by Mr. E. Thornton in 1840 and expired in 1860. The measurements and inspection for the new assessment were completed by Mr. H. G. Koene in 1861, and the assessment itself was made by Mr. S. N. Martin in 1862-63, but this was cancelled by Government in 1867, and Mr. A. Cadell was instructed to make a fresh assessment which was brought to a conclusion in 1873-74. The following statement shows the statistics of these three revisions as given by Mr. Cadell:—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a. p.
1841 ...	68,144	5,150	12,037	8,099	3,133	36,725	33,858	60,187	1 8 2
1862 ...	69,538	7,844	11,449	8,320	21,664	20,353	41,917	68,472	1 10 1
1871-72 ...	69,491	7,153	10,297	5,564	20,982	25,405	46,477	72,758	1 9 0
Mr. Martin,	61,021	7,844	2,932	8,328	21,664	20,263	41,917	68,422	1 10 0½
1874 ...	69,554	7,202	10,270	5,560	20,682	11,771	46,453	82,160	1 12 4

The fourth line gives the figures of Mr. S. N. Martin's final settlement report and the fifth line gives the figures of Mr. Cadell's returns of 1875. The

difference is mainly in the area held free of revenue. Adding the 7,926 acres cultivated in the revenue-free lands, the total cultivated area amounts to 51,413 acres, or 78·25 per cent. of the total area and 88·5 per cent. of the arable area. Of the culturable area 426 acres were under groves in 1874. Omitting the revenue-free area, 10·7 per cent. of the culturable area was uncultivated in 1871-72 and 89·3 per cent. was under the plough. The progress of irrigation between 1840 and 1860 has been most marked in this parganah and has had a very beneficial effect in increasing the cultivated area and improving the character of the crops sown. In 1840 there was no irrigation from canal, whilst in 1861-62 the area watered by the Ganges canal amounted to 11,662 acres, and in 1870-71 this had increased to 15,132 acres. In the canal-irrigated tract wells have been almost entirely superseded, and the saving of labour has been considerable. In 1862, Mr. Martin estimated the amount of revenue due to canal irrigation in this parganah as Rs. 8,830, and Mr. Cadell in 1871 placed it at Rs. 20,000, or, if revenue-free estates be omitted, at Rs. 16,750, giving an enhancement of assets equal to about Rs. 2·8 per acre. The area entered as irrigated by the canal is naturally much less than the irrigable area, and 16,000 acres may be taken as the area which can be easily irrigated in ordinary seasons, leaving one-third more for the irrigable area, but not watered, which falls well in with the estimate of 22,685 acres made by the settlement officer as the potential area of irrigation for the whole parganah, including revenue-free land.

The parganah has advanced more from this increase of irrigation than from the greater area brought under the plough, and here, as in Sahāranpur, its moral effect on the community has been remarkable. Mr. Cadell writes:—"A Jāt, a Jhojha or a Gūra can, as there are still in this district dry estates enough to show, cultivate with almost unsurpassable industry, although even his sugar-cane is entirely dependent on the seasons; but with the less industrious castes it is different. Increased certainty of the result gives the required incentive to industry, and both on the east and west side of this district there are many Rajpūt and Gūjar communities which have been, comparatively speaking, reformed by what without exaggeration appears to be the most effectual civilizing agent at our disposal—canal water given flush. Indeed, when the value of canal irrigation is discussed, it might be well to consider, in addition to the immediate revenue and the prevention of famine, not only the effect of the canal upon the land-revenue, but its influence upon the more unruly classes. It is at all events curious to notice the comparative oblivion into which once notorious communities have passed since their estates came under irrigation from the canal, while their neighbours of the same clan, and the same old habits, but without any fresh inducement to adopt an honest life, have more than upheld their ancient evil reputation. In this parganah there were no specially notorious

communities, but even the best of the idler classes have benefited from the increased inducement to industry, and the best crops are now grown in fair proportions where formerly they were entirely or almost unknown." Taking the total irrigated area in 1841 as 3,500 acres, there has been an increase of 17,482 acres, or nearly 500 per cent. Nor is the progress in this respect at an end, for the decrease since 1863 is partly due to more accurate registration and to the prohibition of canal-irrigation in Muzaffarnagar and in portions of the three adjacent townships on sanitary grounds.

The increase in irrigation to the west of the Kāli is really only nominal except in the estates to the south. The crop statement shows that the area under cold-weather crops has here decreased, and that amongst the rain-crops, the acreage of cane, *urd* and *moh* has fallen off, whilst the area under cotton and *jodr* has considerably increased. To the east of the river, owing to the canal, the improvement has been more marked and rapid. The area under wheat is somewhat less, but there is more gram, and taking both together their area has increased. The decrease in barley and barley mixed with wheat (*yojai*) is unimportant, but the increase in the best rain-crops is noteworthy. "Sugar-cane is now grown in an area 77 per cent. in excess of that of 1841; the cotton crop has increased by 58 per cent., while the reduced extent of grazing-ground, the larger number of cattle required for agriculture, and the harder work now taken from them, have necessitated the devotion to fodder crops of twice the acreage which was found sufficient thirty years ago. But now-a-days sugar-cane is no longer the crop of the parganah; and although higher rent-rates are not generally levied in this parganah for land under *munji*, or the finer rice, than those which are charged for cane land, as is the case elsewhere, *munji* is looked upon as a crop of at least equal value and importance with cane. Since the opening of the canal rice is generally grown on the best land of the estate, and alternates with cane and other valuable crops; and the introduction of *munji* into the upland portion of the parganah has no doubt seriously retarded the extension of cane cultivation." Still the millets, characteristic of poor land, occupy one-fourth of the total cultivated area.

Though the parganah has lost several good estates and received several bad ones since Mr. Thornton's settlement, a comparison of the percentages to the cultivated area of the principal crops in 1841 and in 1871 shows that there has been considerable improvement, as the following figures will testify:—

	Sugar-cane.	Cotton.	Rice.	Total kharif.	Wheat.	Barley.	Total rabi.
1841,	4	2	3	54	32	1	46
1871,	5·7	3·3	7·5	57·2	30·3	4·2	42·8

In 1843-44 a crop statement was prepared for the parganah, and a comparison with it of the statistics of the present revision will show the progress made in 30 years. To make the influence of the canal more clear, the villages to the west of the Káli are separately entered, and as no distinction was made for the revenue-free patches in estates paying revenue to Government and the revenue-free estate of Sandaoli in 1843-44, their statistics are omitted. The following table shows the area under each crop and all the figures necessary for comparison :—

Rabi.					Kharif.									
ss of estates.	Wheat.	Gram.	Barley.	Gojaj.	Other crops.	Total.	Sugar-cane.	Cotton.	Maize.	Jôar.	Common rice.	Other crops.	Total.	
ased estates h patches held e of revenue, 44.	15,956	683	2,293	1,684	...	20,621	1,809	940	38	516	2,042	15,798	21,	
Ditto, 1871,...	15,062	1,573	2,165	1,052	771	20,635	2,314	1,495	361	723	1,871	20,770	28,	
ly revenue- e estates 1844.	1,649	97	322	11	...	2,079	192	91	...	4	227	1,474	1,	
Ditto, 1871,...	1,781	81	81	91	18	2,052	310	118	16	6	78	1,935	2,	
een estates to west of the li, 1844.	3,972	120	309	150	...	4,551	385	210	...	97	554	2,933	4,	
Ditto, 1871,...	3,153	444	114	29	210	3,950	257	313	289	471	247	3,470	4,	
-nine estates to east of the li, 1844.	13,633	663	2,311	1,545	...	18,149	1,616	821	38	423	2,015	14,039	18,	
Ditto, 1871,...	13,690	1,210	2,132	1,114	591	18,737	2,367	1,300	138	258	1,702	19,135	25,	

The following statement shows the detailed distribution of the soils in the cultivated area as ascertained at Mr. Cadell's revision :—

Circle.	IRRIGATED.				DRY.				Grand total.
	Bárah.	1st rausli.	2nd rausli.	Total.	1st rausli.	2nd rausli.	Bhár.	Total.	
1st circle, ...	27	8,019	928	8,369	329	542	1,673	2,544	11,513
2nd " ...	41	5,979	1,200	7,224	1,689	1,479	3,133	6,301	13,521
3rd " ...	24	3,860	909	4,793	4,462	5,386	6,802	16,630	21,443
Total, ...	92	17,858	3,032	2,0982	6,480	7,407	11,608	25,495	46,477
Muáfi, ...	53	3,393	637	4,083	852	1,400	1,599	3,844	7,927
Grand total, ...	145	2,1251	3,669	2,5166	7,332	8,807	3,200	29,339	54,404
Percentage, ...	0.3	39.0	6.7	4.6	13.5	16.2	24.3	5.4	...

The nominal increase in the cultivated area during the last thirty years amounts to 6,619 acres, or 16 per cent., of which nearly 2,000 acres is due to the lapse of revenue-free holdings, 1,000 acres to errors in measurement, and

2,000 acres to decrease in recent fallow, so that only 1,500 acres, or 4 per cent., really represents newly broken-up land. The rates assumed by Mr. Cadell for his circles are as follows. :—

Circle.		IRRIGATED.			DRY.		
		<i>Bārah.</i>	<i>1st rausli.</i>	<i>2nd rausli.</i>	<i>1st rausli.</i>	<i>2nd rausli.</i>	<i>Bhār.</i>
		Rs.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
1st circle,	...	12	6 12	4 8	3 6	2 4	1 8
2nd „	...	9	5 10	3 12	3 0	1 11	1 2
3rd „	...	6	4 14	3 6	2 10	1 8	0 15

These rates applied to the soils of the previous table give a rental assets of Rs. 1,59,823, against Rs. 90,270 in 1841 and Rs. 1,58,467 in 1863, and a revenue at half this amount would fall at Re. 1-11-9 on the cultivated acre, against an existing revenue-rate in 1872 of Re. 1-9-0. The revenue actually assessed amounted to Rs. 82,160, and came into force from the kharif instalments of 1873-74. It shows an increase of Rs. 21,980 over the revenue of 1841 and of Rs. 10,118 over the revenue of 1863.

The census of 1872 shows 55 inhabited sites, of which 10 had less than 200 inhabitants; 12 had between 200 and 500; 17 had between 500 and 1,000; 14 had between 1,000 and 2,000, and one had between 1,000 and 3,000. Muzaffarnagar itself is the only town in the parganah containing more than 5,000 inhabitants. The settlement records in 1871 show 64 villages, distributed amongst 72 estates, of which six villages were revenue-free and ten were uninhabited. The total population numbered 48,888 souls (21,962 females) in 1872, giving 448 to the square mile. Classified according to religion, there were 32,867 Hindús, of whom 14,644 were females; 15,993 Musalmáns, amongst whom 7,306 were females; and 28 were Christians. Distributing the Hindu population amongst the four great classes, the census shows 2,338 Brahmans, of whom 989 were females; 338 Rajpúts, including 128 females; 2,952 Baniyas (1,322 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 27,239 souls, of whom 12,205 are females. The principal Brahman sub-division found in this parganah is the Gaur, numbering 2,085 souls in 1872; Sáraswats numbered 101. The Rajpúts belong for the most part to the Tomar clan (104) and the Baniyas to the Agarwál (2,198) and Ohloti Sarau (711) sub-divisions. Amongst the other castes, the most numerous are the Taga (1,271), Budhi, Kahár, Chamár (8,432), Garariya, Juláha, Kumbár, Sonár, Lohár, Khákrob, (1,733), Ját (3,861), Banjára

(581), Gújar (466), and Saini (1,754) castes. The Musalmáns comprise 13,322 Shaikhs and 1,722 Sayyids. The statistics of the distribution of the area amongst the land-owning classes are given in the district notice. Formerly almost the entire parganah belonged to Sayyids, with a small sprinkling of Gáras, Tagas, and Gújars. At the present time the Sayyids hold only one-fourth of the entire revenue-paying area, besides large revenue-free grants, and have given place to Mahájans, Bohras, and the Marhal Nawáb of Karnál. The tenures are for the most part *pattildri*, with the shares divided into fractions of a bigha. In thirty-two of the best estates the cultivating castes are principally Játs; in nine, Gáras; in three, Sainis, and in three, Gújars, with a few Brahmans, Rajpúts and Tagas. Cultivating proprietors occupy one-fifth of the cultivated area; occupancy cultivators, two-fifths; and tenants-at-will, the remainder.

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 342 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 3,103 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 1,455 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 5,811 in agricultural operations; 2,465 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 4,019 persons returned as labourers and 318 as of no specified occupation. Taking the total population irrespective of age or sex, the same returns give 548 as landholders, 13,495 as cultivators, and 34,845 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 1,936 males as able to read and write out of a total male population numbering 26,926 souls.

This parganah was originally known by the name of Sarwat, from the village of that name lying about half a mile to the west of the town of Muzaffarnagar, where the remains of some extensive brick foundations are still to be seen. Shortly after his accession to the throne, Sháhjahán bestowed parganahs Khátanli and Sarwat in *jágír* on Sayyid Muzaffar Khán Khánjahán of Bihári, whose son took some lands from Sujra or Khusa Khera, and uniting them with Sarwat (about 1633 A.D.) called the new town, after his father's name, Muzaffarnagar. The parganah gradually extended by additions from Bhukarheri, Jánsath, Baghra, Chartháwal, Púr Chhapár, and the neighbouring districts, until it held 44 villages inhabited by the Sayyid followers of the *jágírlár*, and 20 more villages were added at the settlement under Regulation IX. of 1833. In 1841-42, four villages, assessed at Rs. 3,005, were received from Deoband in the Saháranpur district, and in 1854-55 further changes took place. Immediately before the British occupation

the parganah was held on a fixed revenue by the Marhal chieftain, afterwards Nawáb of Karnál, and whose possessions here were subsequently exchanged for grants to the west of the Jumna. Of the 58 revenue-paying villages information exists regarding the assessment imposed at successive settlements on 29 villages of the old parganah of Muzaffarnagar, on 13 villages received from Bhu-karheri, and on two added from Púr Chhapár. The assessment of the first 23 estates for 1208 *fashí*, or 1800-01 A.D., amounted to Rs. 18,089; for the remaining years the figures are given below:—

Number of estates.	1215 to 1215 <i>fashí</i> .	1216 to 1218 <i>fashí</i> .	1219 to 1222 <i>fashí</i> .	1223 to 1227 <i>fashí</i> .	1228 to 1232 <i>fashí</i> .	1233 to 1237 <i>fashí</i> .	1238 to 1242 <i>fashí</i> .	1243 to 1247 <i>fashí</i> .	1248 to 1268 <i>fashí</i> .	1270 <i>fashí</i> .
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
23	16,525	15,771	17,871	18,491	19,267	21,437	22,596	22,468	25,971	31,560
9	3,857	3,682	3,857	4,319	4,422	5,448	5,763	5,716	6,486	8,770
12	16,079	12,090	12,035	12,765	12,765	13,294	13,614	15,016	15,466	17,890

These figures are in a few instances in the second, fourth and fifth periods conjectural, but on the whole they may be looked on as tolerably correct, though they do not profess to give the exact averages of the periods during which progressive assessments were levied. "This statement and the figures for each village combine to show," writes Mr. Cadell, "that the estates in this parganah have all along been moderately assessed. In many cases, indeed, the assessments would appear throughout to have been extremely low, even in those estates which are cultivated by old communities which held their own throughout the long period of anarchy which preceded the British occupation. Elsewhere, the most remarkable features of its fiscal history are the enormous assessments which appear to have been levied from the strong cultivating communities, and the marked rise in the assessment of estates which, before the pacification of the country, were carelessly cultivated, if tilled at all. The estates, comparatively speaking, most heavily assessed throughout the period are those immediately in the neighbourhood of Muzaffarnagar itself, and those in which the revenue has advanced least are the estates on either bank of the river which have not received canal water, or in which the opening of the canal has conferred the least benefit, or by percolation in the lower lands has caused the greatest injury. Taking the parganah, as a whole, the enhancement of the land-revenue has been gradual and moderate; and the revenue of the twenty-three estates, the history of which is known from the beginning of the century, has increased only 40 per cent. in the fifty years which elapsed between the British occupation and the construction of the Ganges canal. It is not improbable that the

revenue assessed by the Marhattas was not always very punctually levied, but there were collected, in addition to the revenue, some or all of no less than eleven distinct cesses, which appear to have had a place in the revenue system of our predecessors. Irregular demands, too, were no doubt more numerous and more important than they are now; and, above all, the country was in a state of the utmost insecurity, was in constant danger from marauders whose frequent incursions, besides inflicting other and more important injuries on the people, seriously interfered with agriculture, by keeping the population massed together in towns and large villages, instead of being scattered in a manner necessary for effective agriculture in small villages and hamlets. Since the beginning of the century, too, improved communications have accompanied increased security, population has been largely added to, and prices, which were famine prices seventy years ago, are now little, if at all, above the average. Independently, therefore, of the construction of the canal, the assets of the parganah might have been expected to show a large increase, which successive reductions of the proportion of the rental taken by the State could not prevent Government from sharing."

"Transfers, comprising 27 per cent. of the total area, took place between 1841 and 1860 (18,356 acres), and from 1862 to 1871 eight per cent. more changed hands (5,481 acres). Changes in proprietary rights. That this was not due to over-assessment is shown by the prices given. In the case of private transfers of portions of estates during the first period the prices fetched amounted to 25 times the land-revenue, and in the latter period 15 times, or Rs. 11-3-0 and Rs. 20-6-3 per acre respectively. In the case of transfers by public sale, the proportion of the sum realized to the annual Government demand increased slightly in the second period, whilst the average price per acre rose from Rs. 7-7-9 to Rs. 12-9-11 per acre, or by over 67 per cent. Even with reference to the land which still remains to the Sayyids in this parganah, the changes have been great. The poorer owners have given way, and land, even among Sayyids, is accumulating in a few hands. The remaining proprietors, besides the communities noticed above, are of various castes, but their holdings are small and unimportant. The fact that so many of the poorer proprietors have ceased to hold land in the parganah has done a good deal to facilitate the work of assessment. No consideration, however excessive in assessment, can save Sayyid owners from the inevitable result of reckless extravagance, but assessments are often kept down when the family which owns the land is, although from causes altogether distinct from the incidence of the Government demand, on the brink of ruin. Now, however, nearly all the best estates are owned by capitalists who have been fortunate in their investments, and whose incomes have been increased without

¹ II Rev. Rep. (N. S.), 10.

effort on their part; while the poorer Sayyids hold on in townships which, owing to want of water and poverty of soil, require, independently of the circumstances of the owners, most cautious treatment. The cultivating brotherhoods, again, have contrived to preserve their proprietary rights only in the worst portion of the parganah, so that altogether the proprietors who require special consideration own, almost without exception, the land which on account of its natural quality, or by reason of increasing deterioration, requires the most cautious and lenient treatment."

The population in 1853 was 45,642; in 1865 was 49,518, and the figures for 1872 have already been given. These show a considerable increase between 1853 and 1865, and a decrease between 1865 and 1872. The statistics, however, of Jānsath and of other parganahs go to show that there is not necessarily any connection between canal-irrigation and a decreasing population, and Mr. Cadell's examination of the statistics for this parganah confirms this view, for amid all the conflicting ideas to which the figures for this parganah might possibly give rise, there is one indisputable fact that, with one trifling exception (Sikhara), the population has fallen off in every village in this parganah which is not watered from the canal. In the nine villages to the west of the Kāli, population decreased by over one thousand in the seven years 1865-72, but though they did not escape the epidemic fever which has raged in the district since 1867, the diminution in numbers is due more to drought than to disease. A similar falling off may be noticed in almost every village in which the area under cultivation is very seriously diminished in a year of drought. In such seasons owners and occupancy tenants cling to the land, but less permanent residents emigrate to tracts where irrigation is more plentiful and population is insufficient: and such tracts lie almost entirely beyond the boundary of this parganah. To the east of the Kāli, population has slightly increased, and here, on the whole, villages with defective drainage have suffered, or at least the population has not substantially increased. "But there are others of this class in which the population has increased in a marked manner. Plentiful irrigation, where not combined with specially defective drainage, does not, it is clear, retard the increase of population even in estates which, occupied by strong cultivating communities, can hold out the prospect of employment, but not of land, to new-comers. The most rapid increase of all has taken place in the sparsely-populated estates, in which canal-irrigation and high cultivation are making more or less rapid progress, and of late years the increase has, it would seem, taken place within the parganah, and is not due to immigration from without. The falling off in the agricultural population since 1852 is probably entirely due to a difference in the classification, day-labourers having been, in

1865 and 1872, classed as non-agricultural; and the statistics of population, as far as they are available, show that during the nineteen years that have passed since 1852 a steady decrease in the population of the dry tract to the west of the Káli river, and a steady increase in the population of the canal-irrigated tract to the east of the river—an increase, however, which has been very materially checked by the very severe fever epidemic which was so fatal in this parganah in 1867 and the two subsequent years.”

PÚR CHHAPÁR, a parganah in the Muzaffarnagar tahsil of the Muzaffarnagar district, is bounded on the north by the Saháranpur district, on the south-west and south by parganahs Muzaffarnagar and Bhukarheri, and on the east by parganah Gordhanpur. According to the census of 1872, this parganah had, then, a total area of 93 square miles and 544 acres, of which 66 square miles and 557 acres were under cultivation. The area assessed to Government revenue during the same year was 89 square miles and 543 acres, of which 63 square miles and 219 acres were cultivated, 10 square miles and 486 acres were culturable, and 15 square miles and 448 acres were barren.

Parganah Púr Chhapár lies in the north-east of the district and is the most northerly of the parganahs of the Ganges canal tract. General appearance. If, as has been recommended, the six estates situated in the alluvial land lying between the Soláni and the Ganges be transferred to the Gordhanpur parganah, the Soláni river will form the eastern boundary of the parganah. To the west of the Soláni runs the Ganges canal, and from Godhna on the canal, a belt of sandy hillocks runs south-west and bifurcating at Simarhi, which they completely surround, and thence running southwards, enter the Bhukarheri and Muzaffarnagar parganahs. Occasionally these lines of sand unite to form a ridge, but, as a rule, they consist of a series of hillocks varying in size and shape with the force and direction of the wind. Amidst them, hollows are to be found where water lodges and is retained, and which add much to the fertility of this sandy tract. From the main chain of hillocks, branches spread out in every direction and gradually fade into the ordinary level of the country. To the east of these ridges lies the extensive sandy plain extending northwards from Bhukarheri. This sandy tract commences to the north in the Saháranpur district, and can be traced southwards through Meerut, Bulandshahr, and Aligarh into the Etá district.¹ Although the parganah compares favourably with the parganahs adjoining it on the south, in the proportion of land under the plough, it is very distinctly inferior in natural fertility, and though it has excellent facilities for irrigation, owing to the prevalence of sand, the proportion of irrigation to cultivation is less

¹ The chief authority for this notice is Mr. Cadell's M.S. report.

than usual. Indeed, there are few really good villages in the parganah, and 64·75 per cent. of the cultivated area and a still larger proportion of the total area is either sand or sandy loam. Before the introduction of the canal, water was found at a depth of 60 feet in the west and of 100 feet in the eastern portion of the parganah, so that the cost of wells (Rs. 1,500 to Rs. 3,000) and the cost of drawing water precluded irrigation except in the case of garden lands, and even then only to a small extent. The absence of water for drinking purposes has interfered, though to a less extent than in Bhukarheri, with the cultivation of the land overlooking the Ganges *khádír*.

Six villages in the Soláni *khádir* to the east of that river which belonged to this parganah have been added to the swamp affected villages of Gordhanpur and are held under direct management. On either side of the canal the lands in the *khádírs* of the rivers have become seriously deteriorated. On the West Káli river the injury, though great, is limited in extent, but along the Soláni the results of percolation have been more destructive. From north to south all the fields, except the very highest and sandiest below the uplands, have been injured, and cultivation has fallen from 1,470 acres in 1841 to 836 acres in 1871. The loss has not ended here, for, in the area now under cultivation, the best crops have almost disappeared. Cane is grown only in one village and cotton and rice have smaller areas and are more uncertain, whilst the old rice-lands have given place to a reed-grown swamp. The water-shed of the parganah is the high bank overlooking the Ganges valley, along which the canal runs. The general slope of the country is towards the south and east, but the drainage is interrupted by natural obstacles in the shape of sand-ridges and by artificial hindrances in the shape of *rajbahas*, and the sand absorbs so much moisture that very little of the rain-fall in the uplands escape from the parganah. The water-level has now risen to 20 feet from the surface in the west and lower portion of the parganah and to from 50 to 60 feet from the surface in the high land along the water-shed. In many respects the parganah is very similar to Bhukarheri, but still somewhat inferior. It has more sand, less irrigation, a smaller population to the square mile, and on the whole a lower standard of cultivation. On the other hand, there is the same large percentage of sand and a general similarity in soil and cultivation. In the castes of cultivators there is a resemblance, though this parganah has more *Tagas* and fewer *Játs* and the *Gújars* are better. The absence, too, of a resident cultivating community along the high bank overlooking the Ganges valley is less felt than in Bhukarheri.

The settlement under Regulation IX. of 1833 was made by Mr. E. Thornton in 1840-41 and expired in 1861. The revision was made by Mr. S. N. Martin in 1862-63, but this was cancelled, and Mr. A. Cadell was directed to revise the assessments made by

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Mr. Martin. The following statement shows the statistics of each period according to Mr. Cadell:—

Parganah.	Total area.	CULTIVATED.			Culturable.	Revenue-free.	Barren.	Revenue.	Rate per cultivated acre.
		Wet.	Dry.	Total.					
1841.	Aeres	Aeres.	Aeres.	Aeres.	Aeres.	Aeres.	Aeres.	Rs.	Rs. n. p.
Uplands, ...	55,026	53	37,069	37,122	8,504	2,604	6,796	55,543	1 7 11
Lowlands, ...	3,334	...	636	636	935	...	1,763	604	0 15 2
Total, ...	58,360	53	37,705	37,758	9,439	2,604	8,559	56,147	1 7 10
1863.									
Uplands, ...	57,289	25,862	14,606	40,468	5,590	2,573	8,668	59,250	1 7 5
Lowlands, ...	3,010	5	233	238	1,374	...	1,398	80	0 5 4
Total, ...	60,299	25,867	14,839	40,696	6,964	2,573	10,066	59,330	1 7 4
1872.									
Uplands proper, ...	52,682	20,011	20,989	41,000	2,413	2,595	6,574	...	...
Lowlands, ...	4,165	14	1,135	1,149	1,168	...	1,848	...	...
Total, ...	56,747	20,025	22,121	42,149	3,581	2,595	8,422	69,550	1 10 5
Lowlands of Soláni, ...	3,010	5	233	238	1,374	...	1,398	250	1 0 3
GRAND TOTAL, ...	59,757	20,030	22,357	42,387	4,955	2,595	9,820	69,800	1 10 4

The upland figures for 1841 and 1863 exclude the area of the six swamp-affected estates in the Soláni valley and include the area of the upland portion of the parganah, together with the lowlands of the nine villages which stretch into the Ganges valley and of the two which are bounded by the West Káli river. This lowland area is distinguished from the area of the upland proper in the figures for 1872. The returns show that 92 per cent. of the assessable area is under the plough, 0·5 per cent. under groves, 6 per cent. is culturable waste, and 1·5 per cent. is recent fallow. Mr. Martin, in his report, remarks that he could not recommend any increase to the land-revenue except in villages where the sandy area had decreased owing to better cultivation, or where the hollows in the sandy ridges had increased so as to contain more water and render the land more fertile. Again in 1865 he writes:—"I have now had two years' experience of the settlement of this parganah, and I can confidently say it is neither too light nor severe." Notwithstanding this strong expression of opinion a revision was ordered. Mr. Cadell's assessment extended to 55 villages forming 57 maháls or estates, of which 8 were placed in the first or best class, 27 in the second, and 22 in the third. Six of the first-class estates lie in the rich tract through which the metalled road to Púr runs, and to the west of the main sand ridge which intersects the parganah. This tract is

separated from the ridge by a belt of second-class villages, but two of its villages, Khái Khora and Basera, extend into the sandy plain on the east and considerably increase the average of sand in the circle. The second class is inferior in its crops, soils and cultivators, and in the third class the cultivated area comprises 82·5 per cent of sand. The following statement gives the soil areas of the cultivated area of the parganah in 1872 :—Taking the parganah as a whole there is almost equal quantities of loam, sandy loam and sand. The first is completely irrigated and irrigation covers about one-half of the second.

In the matter of crops, the *khariif* crops cover 57·25 per cent. of the total cultivated area, and amongst them cane occupies 5·2 per cent. ; cotton, 4·3 ; *munji* or fine rice, 7·2 ; *dhán* or coarse rice, 2·3 ; *urd*, 7·7, and *bájra*, 15·3 per cent. In the *rabi*, wheat covers 25·3 per cent. of the total area ; barley, 8·3 per cent. ; and *gojui* or mixed wheat and barley, 7·2 per cent., exclusive of *dofasli* or extra cultivation. *Munji* occupies 15 per cent. of the irrigated area, and cane only 10 per cent. In 1841 the prevalence of sand and the absence of any means of artificial irrigation were the characteristics of the tract, but since then the progress has been immense—from 53 acres in 1841 to 20,000 acres in 1871, or including irrigation in revenue-free estates to 21,180 acres, of which 21,009 acres were irrigated from the canal. In 1868-69 the canal-irrigated area rose to 24,852 acres, but in 1872-73 it fell to 11,481 acres. 1868-69 was a year of remarkable drought and 1872-73 was a year of more than average rainfall, so that a mean between the two years, or about 15,000 acres, will show the average area irrigated, and adding one-third to this, the irrigable area. The parganah was prosperous under the old settlements, and though the transfers amounted to 16 per cent. of the total area, they were chiefly due to the pressure of the assessment in and the misfortunes of a very few villages, and have been principally from one class to members of the same class. Of 1,499 acres transferred by Tagas, only 334 acres have gone to other castes, and the largest and most heavily assessed estates in the parganah are still, as of old, almost entirely in the hands of the Taga brotherhoods, who in one capacity or another have all along had the management of them. Even Gújars have done well, and the only communities that have lost a great portion of their lands are the Játs of Basera and Tughlakpur. The Játs, too, since the introduction of the canal, have commenced to recover their ancient position. The rent-rates assumed by Mr. Cadell were as follows :—

Circle.	IRRIGATED.			Dry.		
	Bárah.	1st Rausli	2nd Rausli.	1st Rausli.	2nd Rausli.	Bhúr.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1st circle, ...	12 0 0	5 0 0	4 2 0	3 5 0	2 4 0	1 5 0
2nd " ...	12 0 0	5 4 0	3 12 0	3 0 0	1 14 0	1 2 0
3rd " ...	6 0 0	4 5 0	3 3 0	2 10 0	1 8 0	1 0 6
General average, ...	11 7 3½	5 8 5½	3 12 3½	2 14 8½	1 14 1½	1 2 7½

These rent-rates gave a general average for the whole parganah of Rs. 11-7-3 $\frac{1}{4}$ per acre for *bárah* or garden land; Rs. 5-8-5 $\frac{1}{2}$ for wet loam or first-class *rausli*; Rs. 2-14-8 $\frac{3}{4}$ for dry loam; Rs. 3-12-3 $\frac{1}{4}$ for wet sandy loam or second-class *rausli*; Re. 1-14-1 $\frac{1}{2}$ for dry sandy loam, and Re. 1-2-7 $\frac{3}{4}$ for *bhár* or sand. These were generally the rates assumed for Bhukarheri. The application of these rates to the soil areas gave a rental assets of Rs. 1,31,766, or Rs. 12,872 in excess of the rental assumed in 1863 and R. 46,375 in excess of the assets assumed in 1841. The increase to the assets, therefore, assumed by the new rent-rates since 1841 is one of more than 52 per cent., a degree of progress which seems to be in no respect excessive when the improvement of cultivation, the rise in prices, and, above all, the enormous increase of irrigation are considered. The assessment actually made in the upland amounts to Rs. 69,550, which came into force from 1873-74, and gives an increase of Rs. 10,948 over the revenue of 1841 and of Rs. 10,300 over the revenue of 1863. The revenue of the six lowland villages has been raised from Rs. 80 to Rs. 250 in 1281 *fasli* (1873-74 A.D.) The extension of irrigation to nearly the whole of the naturally good land leaves any further improvement to be looked for in the careful cultivation of the poorer land, which requires a larger population than the existing one to give the labour and manure necessary to bring it to the state in which irrigation becomes remunerative. The irrigation of sand makes in ordinary years but little difference in the outturn, and does not repay the cultivator, who can only resort to it in seasons of drought, when the rise in price doubles the value of the crop and straw, while the important item of water-rate remains unchanged. During every season of drought, therefore, an important area is watered, which is not again irrigated until the exceptional conditions are renewed. The cultivable waste, too, leaves little margin for extension, and the improvement in this direction must continue, as it has been, in the direction of substituting the better for the inferior crops.

According to the census of 1872, parganah Púr Chhapár contained 44 inhabited villages, of which nine had less than 200 inhabitants; 22 had between 200 and 500; five had between 500 and 1,000; four had between 1,000 and 2,000; two had between 2,000 and 3,000, and two had between 3,000 and 5,000. The settlement records show that, in 1863, there were 62 estates on the register and 60 villages, of which 16 were uninhabited. The total population in 1872 numbered 33,026 souls (14,969 females), giving 351 to the square mile. Classified according to religion, there were 23,717 Hindús, of whom 10,600 were females and 9,309 Musalmáns, amongst whom 4,369 were females. Distributing the Hindu population amongst the four great classes, the census shows 2,146 Brahmans, of whom 1,099 were females; 76 Rajpúts, including 30 females; 1,153 Baniyas

(651 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 19,742 souls, of whom 8,850 are females. The principal Brahman sub-division found in this parganah is the Gaur, numbering 1,432 souls in 1872. The Baniyas belong to the great Agurwál (1,432) sub-division, and amongst the other castes the most numerous are the Taga (2,620), Kahár, Chamár (6,201), Garariya, Juláha, Kunhár, Son'ar, Jogi, Máli, Khákrob, Ját (1,592), Banjára and Gújar (2,124). The principal landholder in the parganah is the money-lender of Chhapár, whose ancestors were formerly in the service of the Landhaura Raja. The descendants of Rámdayál, the Gújar Raja, have now only two estates in the north and a portion of Basera. The Shaikhs of Rajapur still retain one village and a portion of another, which is, bit by bit, falling into the hands of the Ját cultivators. The Shaikhs of Púr and the Tagas and Játs fairly hold their own, and their losses to the money-lenders occurred during the early days of British rule, before the rights of village communities had been formally acknowledged. The Shaikhs of Púr, however, still maintain the evil reputation which they earned in former days when the uncertain produce of their land gave some excuse for dilatory payments. The predominant classes amongst the agriculturists are Játs, Tagas, Brahmans, and Sonárs. The Tagas and Játs are found in groups of villages, all claiming descent from a common ancestor, and these are also the best villages.

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 343 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 1,582 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 603 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 4,894 in agricultural operations; 1,624 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 2,224 persons returned as labourers and 201 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 1,310 as landholders, 11,562 as cultivators, and 20,154 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 575 males as able to read and write out of a total male population numbering 18,057 souls.

Púr Chhapár is one of the old Akbari parganahs and formerly bore the name of Chhapár-Khuda from the village of Khuda, which is still in existence in the west of the parganah. Similarly, under the Hindús, Shikárpur bore the name of Klu di from the village of the same name still in existence. Many

years ago, however, a celebrated person named Kázi Nizám came here and settled at Púr, and since then the name of Púr Chhapár, or Kázi-ke-Púr, has become

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common. The káúúngo, according to Mr. Martin, professes to trace a line of Hindu Rajas here for 4,181 years, and the Musalmán occupation dates from the twelfth century. The present parganah is made up of 27 villages belonging to the old parganah of Púr; 25 from the absorbed parganah of Núrnapar; 4 from Bhukarheri; one from Dooband, two from Manglanr in the Saháranpur district, and one from Jauli. In 1840-41 two villages were transferred from Púr to Dooband and three to Manglanr. Púr lies to the north of the tract occupied by the Sayyids in the seventeenth century, and does not appear to have been appropriated by any of the powerful residents of the district until it was obtained by the Júnasath Sayyids when they rose to supreme power in the reign of Farrukhsiyar. After the ruin of its Sayyid masters this tract was included in the Báwani mahál, and eventually fell into the hands of Raja Rámdayál of Landhaura, in whose possession it remained until his death in 1813. The *mukarari* of the Raja then lapsed, and Mr. Chamberlain made a settlement with the village communities themselves at a more than average rate. At the next settlement, the high demand seems to have been maintained, and this parganah, which had the good fortune to escape, as a whole, "the scourge of public sales, came under the ruinous system of farm." The oppression, however, of the principal farmer, Shaikh Kalan (see Saháranpur district, Gazetteer, II., p. 212), led to the cancellation of the farm, and the village proprietary bodies were once more admitted to engagements.

Here, even more than elsewhere, the townships owned by cultivating brotherhoods were from the beginning highly assessed, and the demand seems to have been specially high in those estates in which the rights of the new zamíndárs were least decided. In not a few of the estates comprising the old *mukarari* there

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were no long established communities. The Sayyids had become owners, the Gújarshad dispossessed the Sayyids, and there were no owners left. In one estate, the instructions to settle with the residents were so faithfully carried out that even the Chamárs received their shares; in another, a Ját colony which can even now count no more than five generations since the original immigrants settled round the Sayyid fort, received a splendid property, and people who had no rights were thought to be left well enough off with the small percentage left them by assessments, which even now that the value of the land has been nearly doubled cannot under the present rules be sensibly enhanced. The successive assessments up to 1841 remained at practically the same amount except in the two villages of Púr and Purai, and excluding these and the resumed revenue-free estates the total increase since 1813 has hardly amounted

to two thousand rupees, still the original heavy assessment has not in itself been felt as intolerably severe, and with the introduction of the canal the villages began to recover themselves rapidly. One result of the high incidence of the demand deserves notice, and that is the improvement that has taken place in the condition of the tenantry. In a dry tract, assessed to close upon the average assets, the landholder must adopt a conciliatory policy towards his tenants and use every means to induce them to aid him in bearing the burden of taxation. In many villages tenants are found holding at rates little above the revenue demand, and cases occur where the whole management of the estate and the proprietary rights have fallen into the hands of a few pushing members of the brotherhood, the remainder, from fear of responsibility, having allowed themselves to drift into the position of mere tenants holding at specially favourable rates. In nearly every respect, the history of the parganah, in recent times, has been one of gradually increasing prosperity. There has been comparatively fewer transfers of proprietary right and less strife and litigation than elsewhere between landlord and tenant, and it only wants a rapidly increasing population, which is essential to agricultural prosperity, to be in the enjoyment of every advantage that a tract naturally deficient in good land and manure can possess. The district notice gives the distribution of the area amongst cultivators and proprietors and their castes.

PŪR, a village in parganah PŪR ChhapŪr of the Muzaffarnagar district, also known as Kāzi-ko-PŪr, is distant $16\frac{1}{2}$ miles from the civil station. The population in 1872 numbered 4,356 souls. PŪr contains some good brick-built houses and a good *masjid*. The inhabitants are chiefly Shaikhs. An old well situated in the village contained 36 feet in depth of water at 20 feet from the surface in 1868; before the opening of the canal there was only 12 feet of water in the same well at a depth of 44 feet from the surface. Fever has been rife here for some years. The centre of the village site is somewhat raised, but still there are large excavations filled with stagnant water around, and no arrangements have been made for drainage. Act XX. of 1856 (the Chaukidāri Act) is in force, and supported a village police numbering 15 men of all ranks in 1872 at an annual cost of Rs. 864. The total income during 1872-73 amounted to Rs. 2,138, giving an incidence of Rs. 0-5-1 per head of the population and Rs. 1-9-8 per house. The number of houses assessed was 865 and the expenditure was Rs. 1,532. It has a good encamping-ground, and supplies and water are plentiful. There is a second-class police-station, a post-office and a school here. PŪr lies on the route from Meerut to RŪrki, and is distant $15\frac{3}{8}$ miles from the latter town. The road from Muzaffarnagar to PŪr is described under the former town. From PŪr to RŪrki the road is metalled and bridged and passes through a fairly cultivated country. The Ganges canal is crossed by a bridge at 7 miles, near Manglaur. PŪr in Jhanjhāna is 25 miles from Muzaffarnagar.

RAJPUK KALAN, a village in parganah Bhúma of the Muzaffarnagar district, is distant 22 miles from the civil station. The population in 1865 numbered 1,500 souls, and in 1872 there were 1,418 inhabitants, principally Jâts. The houses are built of mud, much crowded together, and the lanes are narrow, tortuous, and uneven. Numerous excavations exist on all sides, and these exhibit much mud in the hot weather. The water in the wells is 17 feet from the surface. The country around is sandy, but is irrigated from a distributary, running close to the site.

SAMBALHERA, a village in parganah Bhúma Sambalhera of the Muzaffarnagar district, is distant 18 miles from the civil station. The population in 1872 numbered 2,018 souls. The houses are scattered over the site, surrounding the one good brick-built house of the Musalmán proprietor. The country around is sandy, and there are low sand-hills close by. In the adjoining village of Mahmúdpur is a brick fort with high corner towers. The drainage and cleanliness of this village appear to be neglected. There is little irrigation, and the water in the wells stood at 30 feet from the surface in March, 1868. The Sayyids of Sambalhera belong to the Chhatrauri clan of the Bárlia Sayyids, for an account of whom see the district notice under "History."

SHÁHPUR, a village in parganah Shikárpur of the Muzaffarnagar district, is distant 13 miles from the civil station on the Buchána road. The population in 1872 numbered 3,371 souls. There is a second-class police-station and post-office here. The Chaukidári Act (XX. of 1856) is in force in Sháhpur and supports a village police numbering nine men at a cost of Rs. 528 a year. The total income from all sources in 1872-73 was Rs. 1,061, giving an incidence of Re. 0-4-4 per head of the population and Rs. 3-13-7 per house. During the same year the number of houses assessed was 256 and the expenditure was Rs. 1,103.

SHÁMLI, a town in parganah Sháuli of the Muzaffarnagar district, is distant 24 miles from Muzaffarnagar. Sháuli, in 1817, had a population numbering 8,447 souls, in 1853 the numbers were 11,816, and in 1865 they were 9,728. In 1872 there were 9,177 inhabitants, of whom 7,158 were Hindús (3,292 females) and 2,019 were Musalmáns (848 females). Sháuli is situated in lat. 29°-26'-45" and long. 77°-21'-10". Franklin¹ writing in the last century, describes Sháuli as a town two miles in circumference, which "contains many handsome houses both of brick and stone.

The site.

The streets intersect each other at right angles and have separate gates at their entrances, which at night are shut for the security of the inhabitants. At Sháuli is a large bazar and a mint where money used formerly to be coined. But the trade of this place, like many others in the Duáb, is now much on the decline, and with the exception of a few coarse cloths, the manufactures are at a stand. In its present state, the

¹ Life of George Thomas, 93.

villages attached to the parganah of Shámli yield a revenue of about Rs. 50,000, though in the flourishing times of the empire it was far more considerable." There are now a good number of brick-built houses, but the only good street is the bazar, which has a fine row of shops on either side. The site is very low and even bears the character of a depression in the general level of the surrounding country. The consequence of this is that water in the wells in some places is as low as four feet from the surface and in others ten feet. In the rains, water in some places stands almost at the surface and is unfit for drinking. The soil is mostly tenacious with a good deal of clay in parts. *Chari* or fodder is the principal rain-crop, and in the spring wheat is chiefly grown. There are numerous clumps of mango trees to the north and north-west of the town. The eastern Jumna canal runs close to the town on the west, and there is a canal channel on the east. The town of Shámli is remarkably filthy, even in a district which boasts of few clean towns. On the west and south there are a series of large shallow water-holes connected by a drainage cut and containing a deep deposit of brown soft mud which is used as a manure. On the north and east is the Gauda nála, which has been continued by cutting to the Krishni or Karsuni nála about a mile to the south of the town. This, however, is of little use as there is not sufficient fall to create a current and the cutting is usually choked with rank vegetation, whilst the stagnant water is further defiled by the house drainage from the east. There is much sickness here and a bad smell proceeds from the mud when exposed to the sun, and from the numerous refuse heaps to be found in every direction. Dr. Cutcliffe, writing in 1868, says of the inhabitants:—"The general, and almost universal, appearance of the people of Shámli was very striking. They looked thin, ill, pallid, cadaverous, listless and depressed. There seemed to be a stillness and a sickly quietude over the people, and the busy hum of voices was absent from the bazars. They say that sickness from cholera and fever has been very great and general, and that about 800 people died during the year. They say that every soul in the town suffered from malarious fever, which was in some cases intermittent and in others remittent. The latter form was the most fatal. Diarrhoea was a frequent complication." A scheme, however, for deepening and enlarging the bed of the nála above mentioned has now (1875) been taken in hand. It is roughly estimated to cost two lakhs of rupees. Meanwhile the lower part of the bed will be deepened at once, so as to provide an outfall for the water which lodges in the town of Shámli, and the municipality will co-operate by digging channels within its own limits to carry the water into the deepened stream.

Shámli possesses a fair trade with the Panjáb and a considerable quantity of sugar is exported in exchange for salt. It has a first-class police-station, a post-office, and a tahsil. The affairs of the municipality are managed by a committee of twelve members, of whom four

Municipality.

are official and the remainder are elected by the tax-payers. The incidence of the octroi in 1873-74 amounted to Re. 1-2-3 per head of the population for nine months only; in 1874-75 the incidence was Re. 1-2-9 for the whole year. The following statements show the income and expenditure and the imports and consumption per head for nine months of 1873-74 and the entire year 1874-75:—

Receipts.	1873-74.	1874-75.	Expenditure.	1873-74.	1874-75.
	Rs.	Rs.		Rs.	Rs.
Opening balance, ..	1,024	2,882	Collections, ...	1,056	1,016
Class I.—Food and drink, ...	7,819	8,425	Head-office, ...	190	276
II.—Animals for slaughter, ...	38	36	Supervision, ...	79	120
III.—Fuel, &c., ...	406	506	Original works, ...	1,536	3,789
IV.—Building materials, ...	233	222	Repairs, ...	507	959
V.—Drugs, spices, ...	351	623	Police, ...	1,588	1,830
VI.—Tobacco, ...	35	120	Education, ...	58	121
VII.—Textile fabrics, ...	662	825	Charitable grants, ...	70	380
Metals, ...	1,083	305	Conservancy, ...	638	1,074
			Miscellaneous, ...	3,313	3,029
Total octroi, ...	10,627	11,062			
Fines, ...	32	211			
Pounds, ...	111	177			
Extraordinary, ...	112	32			
Miscellaneous, ...	8	22			
Total, ...	11,917	14,386	Total, ...	9,035	12,603

Statement showing import of taxable articles and consumption per head in Shāmbh.

Articles.	NET IMPORTS IN				CONSUMPTION PER HEAD IN			
	1873-74. (nine months)		1874-75.		1873-74 (nine months.)		1874-75.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Mds.	Rs.	Mds.	Rs.	Mds. s. c.	Rs. a. p.	Mds. s. c.	Rs. a. p.
Grain, ...	55,395	...	86,017	...	5 39 12	...	9 9 4	...
Sugar refined, ...	3,983	...	...	...	0 17 2	...	...	...
Ditto unrefined, ...	21,627	...	18,070	...	2 13 1	...	1 37 6	...
Ghi, ...	913	...	1,280	...	0 3 14	...	0 5 8	...
Other articles of food, ...	4,554	4,470	8,749	4,572	besides 2,003 loads.		besides 3,907 loads.	
Animals for slaughter, ...	241	No	462	No.	...	...	10	head
Oil and oil-seeds, ...	2,166	...	3,644	...	0 9 5	...	0 15 11	...
Fuel, &c., ...	917	2,080	885	3,699	0 3 15	0 3 6	0 3 13	0 6 4
Building materials, ...	...	11,372	...	12,694	...	1 3 6	...	1 5 10
Drugs and spices, ...	...	16,009	...	30,962	...	1 11 6	...	3 5 3
Tobacco, ...	189	...	850	...	0 0 13	...	0 3 10	...
European and native cloth, ...	...	40,740	...	49,882	...	4 1 10	...	5 0 4
Native shoes, ...	...	2,480	...	3,236	...	0 4 3	...	0 5 6
Metals, ...	4,167	191	1,384	...	0 17 14	0 0 4	0 5 12	...

Shámli lies on the route from Dohli to Saháranpur between Ailam and Jalálabad, and is distant from the former 12 miles and from the latter town $13\frac{1}{2}$ miles. The road throughout is earthen, raised and bridged; from Ailam it passes close to the left bank of the eastern Jumna canal, through the lands of Kándhla, Fazilpur, Kandrauli and Latui, all highly cultivated villages, and is occasionally heavy from swamps during the rains. From Shámli to Jalálabad it passes through Banat, a fair sized village; Sikka; Heradh at 6 miles; Harhar and the decayed Musalmán town of Thána Bhawan at 11 miles. Shámli is also on the route from Meerut to Karnál, and is distant $14\frac{1}{2}$ miles from Jaula and 13 miles from Bidauli. The road is raised, earthen and indifferent in the rains, when it is often swamped. From Jaula it passes through the lands of Sarái, Lúti, Phugána, Khara Mastán and Hasanpur; it crosses the Krishni by a bridge at Jhál ($9\frac{1}{2}$ miles) and passes through Tájpur and Gágharpur to Shámli. Hence to Bidauli the road is fairly good, though indifferent in places for the first two miles: it crosses the eastern Jumna canal by a bridge close to Shámli, passes Taparána at $3\frac{1}{2}$ miles; Jhanjhána, a fair sized town, at 6 miles; crosses the Kálha at 7 miles (during the rains this stream is formidable and is crossed on a platform); the Kirtu nála at 12 miles (also crossed by a platform in the rains) and Jalálpur at $12\frac{1}{2}$ miles.

The original name of Shámli was Muhammadpur Zanárdár. It formed a portion of the *jágr* granted by Jahángir to his physician Hakím Mukarrab Khán. A follower of the Hakím built a market in the village which he called after his own name (Shám). The *jágr* was resumed in the reign of Bahádur Shah, but the name Shámli, or as pedants would have it Syámli, has been retained to the present day. In 1794, Shámli was the residence of the Marhatta commandant, who being supposed to be in league with the Sikhs and to encourage their incursions, George Thomas was sent against him by Lakwa Dáda, the Marhatta governor. An action took place in which the commandant, after a most gallant defence, was obliged to retreat into the town. Thomas, the same evening, stormed the town and captured it, when the commandant and his principal adherents were cut to pieces, and Thomas, after appointing a new civil governor, was in time to take part in the siege of Lakhnauti. In 1804 the first battalion of the 14th N. I. and a local battalion under Colonel Burn were sent to protect the district against the Marhattas.¹ Colonel Burn marched up the Duáb, but was overtaken by Jaswant Rao near Kándhla, and at Shámli his little force was completely surrounded by an overwhelming host of Marhattas (29th and 30th October). Retreating to a small fort close under the walls of the town, he there bravely stood at bay, in a position apparently desperate, for the

¹ Prinsep's *Amír Khán* page 225.

people of Shámli joined the enemy and intercepted his supplies. He must in the end have surrendered, had not the Commander-in-Chief's advance relieved him on the 3rd November. The Marhattas disappeared southward without striking another blow, and Colonel Burn took part in their pursuit up and down the Duáb as far as Meerut.

During the early part of the disturbances of 1857 Shámli was held by Ibráhím Khán, the tahsildár, who succeeded in opening up the communications between Meerut and Karnál and kept his division in excellent order until about the end of August, 1857. He then discovered that Mohar Singh, the principal landholder of the neighbourhood, who had hitherto assisted in keeping order, was in traitorous correspondence with Delhi, and called for assistance.¹ Troops were sent to Shámli with Mr. Grant in charge, and remained there for some time. On the 2nd September they attempted to beat up the quarters of Khairáti Khán of Parasauli in the Káundhla parganah, but were repulsed. This was the signal for a general rising of the whole of the neighbouring parganahs: Jaula and Parasauli made common cause, and were reinforced by detachments from Bijraul and Barant in the Meerut district, the former under Sajja and Bakta, sons of the notorious Sáh Mal. The fort of Burhána was taken and garrisoned by the insurgents and the communication between Meerut and Karnál *via* Jaula was cut off. The Magistrate (Mr. R. M. Edwards) repaired to Shámli with his entire available force, but so conflicting was the information received by him that little could be done. He no sooner heard of a party of rebels being collected in a village and had arranged to go and disperse them than other intelligence was brought that there was a still larger gathering in another direction. He writes:—"The truth I believe to have been that there were considerable bodies of men collected in several villages whose intention was to concentrate their force at a stated time, at one common rendezvous, and from there assume the offensive." Mr. Edwards took advantage of his presence at Shámli to punish the turbulent inhabitants of Harhar, Heradh and Sikka, villages lying along the Jálálabad road, which had taken to plundering. News, too, arrived of a rising in Thána Bhawan on the same road, but considering the dispersion of the insurgents at Jaula and the recovery of Budhána of the first importance, he proceeded there with all his available force on the 14th of September. On the same day Shámli was attacked by the rebels from Thána Bhawan headed by the Shaikhzádah Kázi, Mahbúb Ali Khán and his nephew Ináyat Ali Khán. The garrison consisted of the tahsildár (Ibráhím Khán); Bakhtáwar Singh, tahsildár of Thána Bhawan; 20 troopers; 28 jail sopoys and 100 new levies. The tahsil enclosure was a place of considerable strength, and both the native

¹ The petitions of this man to the ex-emperor were found subsequently in the Delhi palace and his father played the same part in 1804.

officers expressed their confidence in being able to withstand any attack. Ibráhím Khán fought gallantly, but the place was taken by assault, and one hundred and thirteen men were killed in the defence. "The ferocity of the Muhammadans, especially against Government servants, was shown by their slaughtering all who, on the place being taken by assault, fled for refuge into the mosquo and temple, which have always, hitherto, been regarded as sanctuaries. They were there to a man cut to pieces; even little children were slaughtered. The inner walls of both the mosque and temple, which are within the tahsíl enclosure, were crimsoned with blood." The troopers of the garrison behaved splendidly. "Those men, one and all, did their duty nobly, and in doing so submitted to every species of insult from those of their own faith amongst the assailants. The Musalmán flag was waved before them, and when others deserted and found safety underneath its folds, they shot the standard-bearer dead." Of ten men of the 1st Panjab cavalry nine were killed. It was not till after the fall of Thána Bhawan that Shámli was reoccupied, and from that time no further disturbances of importance took place.

SHÁMLI, a parganah in the tahsíl of the same name in the Muzaffarnagar district, is bounded on the north by parganahs Jhanjhána and Thána Bhawan; on the west by parganah Kairána; on the east and south-east by parganahs Baghra and Shikárpur, and on the south by parganah Kándhla and partly by parganah Bhukarheri. According to the census of 1872 this parganah had, then, a total area of 101 square miles and 128 acres, of which 71 square miles and 378 acres were under cultivation. The area assessed to Government revenue during the same year was 98 square miles and 480 acres, of which 69 square miles and 320 acres were cultivated, 13 square miles were culturable, and 16 square miles and 160 acres were barren.

This is one of the best parganahs in the district. The Karsuni or Krishni

Physical features. rivor in the centre and the eastern Jumna canal on the west run through Shámli from north to south. To

the east of the Krishni, the villages about Banti Khara on the north have a poor soil and scanty irrigation, whilst on the south, near Kairána, the soil is extremely fertile and earthen walls are practicable. To the west of the Krishni the villages grouped about the canal are naturally fertile, though the soil is adapted in each spot for different crops. A fair road runs from Thána Bhawan southwards through Shámli to Kairána. There are also roads to Muzaffarnagar, Budhána, Ailam, and Bidauli. The drainage near Saláwar has been improved by a cut into the Krishni. The inhabitants are chiefly Játs living in large village communities. At the last settlement canal irrigation covered 10,086 acres in 20 villages; in 1862 it rose to 15,615 acres in 24 villages, and in 1872-73 to 10,534 acres. Mr. Cadell writes that this parganah, like Thána Bhawan, is marked by deterioration from over-irrigation on the west coupled

with a want of irrigation on the east, especially to the north. Mr. A. Colvin formed the new settlement of this parganah in 1862.¹ The transfers during the period of the lapsed settlement (1841-61) amounted to about one-fifth of the whole area: and the price paid at sales by order of the civil court averaged six times the land-revenue; whilst in private transfers as much as eleven years' purchase was obtained. 10,317 acres passed by private and forced sale and 3,189 acres were confiscated for rebellion, or together 20·75 per cent. of the total area. Owing to the minute sub-division of the proprietary right as population increases, the sharers must mortgage and eventually sell their holdings and fall into the position of cultivators. Jāts were the principal losers to the extent of 6,821 acres; next to them come Bilūches, Brahmins, Shaikhzādahs, and Mahājans. At the same time Jāts were considerable purchasers, but Mahājans, Khattris, Bohras, and Kāyathis were the principal buyers. Mahājans and Khattris alone purchased 5,339 acres.

The following statement shows the statistics of the land-revenue at the past and present settlements :—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry	Total.		
	Acrea.	Acrea.	Acrea.	Acrea.	Acrea.	Acrea.	Acrea.	Rs.	Rs a. p.
1848 ...	65,018	9,798	1,022	8,446	10,086	35,666	45,752	1,20,316	2 10 0
1882 ...	64,767	11,191	922	7,199	31,223	14,232	45,455	1,20,067	2 10 3

The land-revenue for 1872, according to the census returns, amounted to Rs. 1,21,479 (or with cesses, Rs. 1,40,582), falling at a rate of Re. 1-14-0 per British acre on the total area, at Re. 1-14-9 per acre on the area assessed to Government revenue, and at Rs. 2-0-5 per acre on the cultivated area. The sum paid by cultivators to the landowners as rent and cesses during the same year has been estimated at Rs. 2,80,524.

According to the census of 1872, parganah Shāmli contained 55 inhabited villages, of which 12 had less than 200 inhabitants; 15 had between 200 and 500; 11 had between 500 and 1,000; 10 had between 1,000 and 2,000; 4 had between 2,000 and 3,000; and 2 had between 3,000 and 5,000. Shāmli alone had over 5,000 inhabitants. The settlement records show that there were 77 estates on the register in 1863. The total population in 1872 numbered 55,876 souls (25,348 females), giving 553 to the square mile. Classified according to religion, there were 46,529 Hindūs, of whom 21,059 were females; and 9,347 Musalmāns, amongst whom 4,289 were females. Distributing the Hindu population amongst the

¹ Mr. Cadell recommended only 18 estates for permanent settlement in this parganah.

four great classes, the census shows 4,818 Brahmans, of whom 2,198 were females; 819 Rajpúts, including 326 females; 4,151 Baniyas (1,873 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 36,741 souls, of whom 16,662 are females. The principal Brahman sub-divisions found in this parganah are the Gaur (4,349), Kananjiya and Dakaut. The Rajpúts, for the most part, belong to the Bisen and Chandrabansi clans, and the Baniyas to the great Agarwál (4,142) sub-division. Amongst the other castes, the most numerous are the Budhi, Kahár, Chamár, (6,165), Garariya, Juláha, Kumbár, Hajjám, Sonár, Jogi (1,171), Máli (1,531), Khákrob (2,587), Ját (11,917), and Gújar (793). Musalmáns comprise Shaikhs (8,568) and Sayyids (149).

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 636 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 2,517 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 1,912 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals, or goods; 7,115 in agricultural operations; 3,031 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 395 persons returned as labourers and 727 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 328 as landholders, 17,776 as cultivators, and 37,772 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 855 males as able to read and write out of a total male population numbering 30,548 souls. Shámli was formed out of the old Akbari parganah of Kairána in the reign of Jahángír, who bestowed it upon Hakím Mukarrab Khán. It remained in his family until it was resumed by Bahádur Sháh, and since then has formed a separate tappa which in course of time acquired the name of a parganah. In 1816 it comprised 21 villages and 24 estates, and in 1840-41 it received one village from parganah Nakúr and three villages from parganah Thána Bhawan, in the Saháranpur district, assessed at Rs. 7,780. Parganah Banat was subsequently added to it, and the united parganahs are often known as Shámli-Banat to the present day.

SHIKÁRPUR, a parganah of the Budhána tahsíl of the Muzaffarnagar district, is bounded on the north by parganah Baghra; on the north-west by parganah Shámli; on the north-east by parganah Muzaffarnagar; on the east and south-east by parganah Khátauli, and on the south by parganah Budhána. According to the census of 1872, this parganah had a total area of 100 square miles and 128 acres, of which 74 square miles and 134 acres were under cultivation.

The area assessed to Government revenue during the same year was 98 square miles and 429 acres, of which 73 square miles and 448 acres were cultivated, 12 square miles and 608 acres were culturable, and 12 square miles and 416 acres were barren.

The western portion of the parganah is intersected by the Hindun, and the Káli forms the eastern boundary. The high land of the Duáb between them slopes down on each side towards the rivers, and is entirely dependent on the rains for irrigation. The slope where the high land merges into the *khádir* or river-bed is much cut up with ravines on both sides and in the *khádir* of the Káli, the presence of *reh* and occasional loss by over-saturation in seasons of heavy rain are drawbacks that are more than compensated by the certain crops of sugar and rice that are produced there. In the uplands, the soil consists of a rich loam traversed by two belts of sand running southwards though Mubárákpur to the Káli *khádir*, which add to the natural aridity of the soil. Irrigation from wells, except in this sandy tract, is practicable and general. This tract is inhabited by a *chaurási* of the Baliyan Játs, a *bárah* of Tagas and the Saini colony of Sháhpur. The proprietors are chiefly Játs, Tagas, and Patháns. The trans-Hindan tract, known as Shikárpur proper, consists of eighteen Ját estates. The level upland is nearly of unvarying excellence, the *khádir* is good, and the slope towards the lowlands contains the only positively inferior soils. Irrigation from masonry and earthen wells was known long before the introduction of the canal, and here canal-irrigation does not seem to have been required. Mr. Cadell writes:—"The extension of canal irrigation to this tract must have been due more to the desire of the canal department to substitute canal for well-irrigation and to collect high water-rates from an industrious population, than to any wish to improve the cultivation of the tract. Indeed, in the estates to the south, in which water is most required, the supply is so uncertain that the rajbaha (Kalarpur) is of little use." Out of the 59 villages constituting the parganah in 1862, Mr. T. Plowden formed the old settlement of 24 villages that belong to the Sardhana jágir; another portion of the parganah was settled by Sir H. M. Elliot, and the remainder by Mr. E. Thornton. The revision of settlement was made by Mr. H. Keene. Mr. Cadell examined the parganah with a view to the permanent settlement, and could only recommend eight estates as coming within the prescribed conditions. The parganah is fairly assessed, and, as far as possible, the burden of taxation has been equalised. The industrious Ját communities were relieved from the undue share of the revenue that had previously been levied from them, and in regard to their villages Mr. Keene writes:—"Not only in this, but in most parganahs that I have had to deal with, I have found officials recommending high assessments on particular estates simply and solely because they were held by wealthy individuals or by industrious tribes; while

the malguzárs, for their part, lay great stress on their want of capital and other personal disadvantages. Each class seems disposed to regard the land-revenue as a kind of income-tax rather than what it really is—the landlord's rent. Doubtless the hereditary claims of the malguzárs form a source of sentimental influence which is hard to resist, but it cannot be indulged beyond the limits imposed by the alternative necessity of allowing a malikána. Otherwise, we must by parity of reasoning, be driven to place an exorbitant demand on estates where they happen to be held by persons of more than usual energy and enterprise, which is equivalent to the manifest absurdity of treating penally the exhibition of merit and resource. Hence in the Soron sub-division of this parganah I have sacrificed many small increments which were recommended to me, having regard to the 'casual variations' of Mr Bird." The transfers from 1841 to 1861 were very heavy, amounting to 16,485 acres, or including confiscations to 16,742 acres, equivalent to 26 per cent. of the total area. The industrious Jâts parted with 9,601 acres; Afgháns lost 4,008 acres; Mahájans 1,624, and Tagas 711 acres. The Jâts re-purchased one-half their losses and the Afgháns and Tagas a portion of theirs, but the lion's share, as usual, fell to the Mahájans, who became owners of 7,465 acres.

Land-revenue.

The following statement shows the statistics of the land-revenue at the past and present settlements:—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irrigated.	Dry.	Total.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a. p.
1848, ...	63,799	10,867	1,980	6,999	...	...	43,953	1,06,052	2 6 7
1862, ...	64,015	8,487	1,118	5,923	21,265	27,279	48,487	1,03,301	2 2 1

The land-revenue for 1872, according to the census returns, amounted to Rs. 1,05,020 (or with cesses, Rs. 1,21,309), falling at a rate of Re. 1-10-2 per British acre on the total area, at Re. 1-10-7 per acre on the area assessed to Government revenue, and at Rs. 2-3-5 per acre on the cultivated area. The sum paid by cultivators to the landowners as rent and cesses during the same year has been estimated at Rs. 2,05,760.

According to the census of 1872, parganah Shikárpur contained 51 inhabited villages, of which 5 had less than 200 inhabitants; 17 had between 200 and 500; 10 had between 500 and 1,000; 12 had between 1,000 and 2,000; 3 had between 2,000 and

Population.

3,000; and 4 had between 3,000 and 5,000. The settlement records show that in 1863 there were 72 estates on the register. The total population in 1872 numbered 52,329 souls (24,108 females), giving 523 to the square mile. Classified according to religion, there were 39,012 Hindús, of whom 17,712 were females; 13,317 Musalmáns, amongst whom 6,396 were females. Distributing the Hindu population amongst the four great classes, the census shows 3,299 Brahmans, of whom 1,501 were females; 246 Rajpúts, including 117 females; 3,579 Baniyas (1,614 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 31,888 souls, of whom 14,480 are females. The principal Brahman sub-divisions found in this parganah are the Gaur (4,301) and Sarwariya (143). The Rajpúts belong for the most part to the Kachhwáha clan, and the Baniyas to the Agarwál (2,758) and Chhoti Saran (684) sub-divisions. The principal divisions of the other castes are the Kahúr, Taga (2,750), Channár, (5,770), Garariya (1,331), Juláha, Kunhár, Hajjám, Sonár, Lohár, Jogi, Máli, Khákrob (1,985), Ját (6,862), and Saini (713). The Musalmáns comprise Shaikhs (12,132) and Sayyids (293).

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 712 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 1,671 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 1,615 in commerce, in buying, selling, keeping or lending money or goods, or the conveyance of men, animals or goods; 7,147 in agricultural operations; 2,713 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 3,106 persons returned as labourers and 549 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 2,970 as landholders, 16,667 as cultivators, and 32,692 as engaged in occupations unconnected with agriculture. The educational statistics, which are apparently imperfect, show 1,582 males as able to read and write out of a total male population numbering 28,221 souls. Shikárpur represents portions of the old Akbari parganah of Khúdi. The name Khúdi is the old name of the town of Shikárpur and is supposed to be the name of the Raja who founded it. Soron or Shoron, which contained six villages in 1816, was subsequently added to it, and the united parganahs are now sometimes known as Soron-Shikárpur.

THANA BHAWAN, a town in parganah Thána Bhawan of the Muzaffarnagar district, is distant 18 miles from Muzaffarnagar. The population in 1847 was 11,221, in 1853 was 11,474, and in 1865 was 8,481. In 1872 there were 7,486 inhabitants, of whom 3,258 were Hindús (1,781 females) and 3,628 were Musalmáns.

(1,837 females), chiefly Shaikhs. These figures show a steady decrease in the population. The town has a good number of brick-built houses and is well

The site. opened out by four roadways meeting in a central point which forms an open *chauk* or market-place, where the grain-dealers reside. The site is raised and lies between the country irrigated on the west by a branch of the eastern Jumna canal and the lowland of the Krishni nadi on the east, which forms the drainage line. In former times, the houses extended quite as far as the banks of the nadi. The water in the principal well was twelve feet from the surface in March, 1869, and in the rains it rises to six feet. In some places the water is almost at the surface during the rains. As a rule, the water is good, but often in the rains it is covered with an oleaginous matter. There are many ruined houses about Thána Bhawan, and many decayed Musalmán families reside here. The Hindús have a temple in the Bhawan sacred to Devi, which is visited by people from a distance. There is a first-class police-station and a branch post-office here. The Chaukidári Act (XX. of 1856) is in force, and in 1872 supported a village police numbering 28 men of all ranks at an annual cost of Rs. 1,644, besides a staff of sweepers. The total income during 1872-73 amounted to Rs. 3,254, giving an incidence of Re. 0-5-6 per head of the population and Re. 1-8-4 per house. The number of houses assessed was 1,812 and the expenditure was Rs. 2,542. The township contains 14,200 bighas, of which 9,700 were under cultivation in 1867. The soil is light and sandy, sand at twelve feet from the surface, and below it clay. Vegetables and a little rice are grown near the town, and the spring crops are wheat and gram. There are some mango and acacia trees in the neighbourhood.

Thána Bhawan was known as Thána Bhím during the reign of Akbar, but that name has long given place to the present one, so History. called after the celebrated temple of Bhawáni Dovi, still a place of considerable resort. Najábat Ali Khán, ancestor of the Kázi who was so notorious during the mutiny, was the Kázi at the British occupation in 1803, and was made by them a tahsildár, but the outcry of the whole parganah soon led to his dismissal. He was an active purchaser of the title-deeds of dispossessed assignees of the Government revenue, as his power and influence enabled him to recover possession of what they had been unable to preserve. He purchased several villages at auction-sale for arrears of revenue, and altogether was one of the most resolute and powerful landholders in the district. Mr. Thornton, in his report, mentions how he brought into order the village of Riáni, which had been sold for arrears, and was inhabited by a community of Rajpúts, "who resisted all attempts to impose the amount of revenue due for their large and valuable village, and were also notorious as thieves: the fear of them had half depopulated the surrounding villages;" but they succumbed to their new master.

Thána Bhawan was a centre of disaffection during the mutiny, when the Shaikhzádahs headed by their Kázi, Mahrúb Ali Khán, and his nephew Ináyat Ali, broke into open rebellion. Their most daring feat was the capture of the Shámli takál and the massacre in cold blood of 113 men who defended it (14th September, 1857). Mr. Edwards, the Magistrate, being reinforced by some Sikh and Gúrkha levies, shortly afterwards determined to attack Thána Bhawan, and thus describes his operations :—

The mutiny. “ On our approaching the place, large bodies of men were soon drawn out in the mango groves and behind the high-standing crops; the artillery opened fire and speedily dispersed them. The guns, however, could not do much, owing to the view being obstructed by the gardens and trees up to the very walls. Some Gúrkhas and Sikhs were next sent out as skirmishers to clear the cultivation, which they effected. It was at this period that Lieutenant Johnstone, commanding the Sikhs, was wounded by a musket ball in the arm and obliged to go to the rear. After a time, finding that the skirmishers were unable to keep down the fire of the town, the rebels firing from behind walls, the skirmishers were directed to be withdrawn; the force then moved more to the left where the ground was clearer, and the horse artillery again opened fire, but finding after a few rounds that little or no effect was produced, the rebels keeping under cover, the guns were withdrawn. “ A storming party of the Sikhs and Gúrkhas—the former under Captain Smith, the latter under Lieutenant Onyler—were directed to advance and storm the town. The party did as directed under a smart fire of musketry, and after clearing and taking possession of several detached buildings which were keenly contested, charged over the wall into the town and got possession of two guns, which they held for some time, but losing a number of men, and the supports failing to come to their aid, they were at length obliged to return, leaving the captured guns behind as there were no means of removing them. The artillery fired a few shots into the town which were not replied to, and we then retired. The musketry fire from the walls of the town and loop-holed houses was very heavy, and our men, dropping all around, shot by enemies whom they could not even see, became dispirited. We were engaged for nearly seven hours, and the men were thoroughly exhausted. The town, which was surrounded by a wall and ditch and has eight gates, is naturally a strong one, and the great number of its defenders, elated with their late success at Shámli, rendered all our efforts vain. Our loss was heavy: 17 killed and 25 wounded, including Captain Smith and Lieutenant Johnstone. The line of baggage, when we were retiring, was attacked by a large party of horse and foot near the village of Khoori; they were at once charged in gallant style by two detachments of the 1st Panjáb Cavalry, one led on by S.S. Melville, Esq., C.S., and the other by M. Low, Esq., C.S., who was severely wounded, receiving three sword-cuts, while his horse was also much cut.

The insurgents fled in utter disorder and were cut up by the cavalry, to the number of about 100, the rest escaped through the high crops. We met with no further opposition on the road." Recalled by orders, Mr. Edwards was obliged to fall back on the civil station, but shortly afterwards, being joined by a force from Meerut under Major Sawyer, he again proceeded against Thána Bhawan. The force on arriving at the place found the town deserted, and so it remained until the middle of October, when it was again visited by the flying column. "So great was the fear entertained by the people of the Shaikh-zádahs that no one would give information" against the leaders of the rebellion. Ample evidence was subsequently secured, and they met with their deserts. The wall of the town and the eight gates were levelled to the ground, and from October no further disturbance took place.

THÁNA BHAWAN, a parganah of the Shámli tahsil of the Muzaffarnagar district, is bounded on the north by the Saháranpur district; on the west by parganah Jhanjhána; on the east by parganah Chartháwal, and on the south by parganah Shámli and partly by parganah Baghra. According to the census of 1872 this parganah had, then, a total area of 89 square miles and 627 acres, of which 53 square miles and 518 acres were under cultivation. The area assessed to Government revenue during the same year was 75 square miles and 378 acres, of which 45 square miles and 352 acres were cultivated, 16 square miles and 480 acres were culturable, and 13 square miles and 186 acres were barren.

Thána Bhawan is intersected on the west by the eastern Jumna canal and on the east by the Krishni nadi, both of which have a course from north to south. The distinction between the tracts to the east and west of the river is very marked. The banks of the river are high, and the tract to the east is so raised that there are few wells and little irrigation. The country is open, with a sparse population and thin cultivation. To the west population is dense and cultivation close. The soil here, too, is naturally good and the means of irrigation plentiful. Wheat is the principal crop, occupying 48 per cent. of the cultivated area, and rice of a good quality is grown in a few villages. Mango groves are common along the canal, and there are a few *dhák* patches in the north-west of the parganah and a few scattered clumps of acacias. On either side of the canal large patches of *usar* occur throughout the whole parganah. Mr. Cadell describes the eastern tract as one possessing few natural advantages. "The soil is of fair quality, but the sinking of earthen wells is difficult and expensive; the cultivators, too, are for the most part Rajpúts, whose progress has not been rapid. It might have been thought that this was the tract in which, above all others, canal water would have been most useful and was most certain to be given, but although the once frequent earthen wells to the west of the river have long since been closed by the

canal; and although the neighbourhood to the east was well supplied with masonry wells, yet the canal department has carefully avoided the tract which most required its aid, and has lavished canal water in needless profusion over a fertile country which hardly wanted help. The consequence is that, while rehs and swamps are doing much injury beyond the Kirsuni, and while the rajbaha to the east irrigates large tracts fully secured by masonry wells, the dry and arid tract in the middle of the parganah has been left without that share of canal irrigation which it so much requires." A line of revenue-free villages runs across the parganah owned by Shaikhs, Bilāches, and Marhattas, but there were very many more in existence before the mutiny.

Mr. Thornton made the settlement of this parganah when it was in the Sahāraupur district. His assessment expired in 1861, and the revision was made by Mr. A. Colvin.¹ During the currency of the old settlement the recorded transfers amount to 5,690 acres and hardly exceed one-seventh of the total area. Excluding the area in which money-lenders were themselves the vendors, this class has succeeded in becoming proprietors of one-half of the area transferred, or one-fourteenth of the total area. Rajpūts were the principal losers by sales, to the extent of 2,277 acres, and Mahājans and Khatrijs purchased 3,590 acres. Land at forced sales fetched about six times the annual land-revenue and at private sales seven times. In addition to the transfers noted above, 7,536 acres were confiscated on account of rebellion, chiefly held by Musalmān grantees and others around Thāna Bhawan. The prevailing castes are Jāts and Rajpūts with a good sprinkling of Shaikhs and Pathāns. The following statement gives the statistics of the land-revenue :—

Year.	Total area.	Barren.	Revenue-free.	Culturable.	CULTIVATED.			Revenue.	Incidence of revenue on cultivated acre.
					Irriga- ted.	Dry.	Total.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs. a. p.
1818 ...	56,997	4,764	10,254	11,618	...	...	30,361	56,241	1 13 7
1862 ...	57,690	9,212	8,910	11,746	19,698	7,994	27,692	57,081	2 0 11

The land-revenue for 1872, according to the census returns, amounted to Rs. 57,985 (or with cesses, Rs. 68,945), falling at a rate of Re. 1-0-1 per British acre on the total area, at Re. 1-3-2 per acre on the area assessed to Government revenue, and at Re. 1-10-11 per acre on the cultivated area. The sum paid by cultivators to the land-owners as rent and cesses during the same year has been estimated at Rs. 1,40,570.

¹ Mr. Cadell recommended only 12 estates in this parganah for permanent settlement.

According to the census of 1872, parganah Thána Bhawan contained 51 inhabited villages, of which 12 had less than 200 inhabitants ; 17 had between 200 and 500; 16 had between 500 and 1,000; 3 had between 1,000 and 2,000, and one had between 3,000 and 5,000. The towns containing more than 5,000 inhabitants are Thána Bhawan and Jakálabad. The settlement records show that 64 estates were on the register in 1863. The total population in 1872 numbered 41,928 souls (19,473 females), giving 466 to the square mile. Classified according to religion there were 27,310 Hindús, of whom 12,230 were females; and 14,628 Musalmáns, amongst whom 7,243 were females. Distributing the Hindu population amongst the four great classes, the census shows 2,491 Brahmans, of whom 1,109 were females; 2,212 Rajpúts, including 863 females; 2,753 Baniyas (1,243 females); whilst the great mass of the population is included in "the other castes" of the census returns, which show a total of 19,851 souls, of whom 9,017 are females. The principal Brahman sub-division found in this parganah is the Gaur, numbering 2,335 souls in 1872. The Rajpúts, for the most part, belong to the Gaur (491), Pundár and Gaharwár clans, and the Baniyas to the Agarwál (2,653) sub-division. The most numerous and influential of the 'other clans' are the Budhi, Kahár, Taga (120), Ohamár (4,996), Garariya, Juláha, Kumbár, Máli, Khákrob (1,484), Ját (933), Saini (1,655), and Rorh (784) castes. The Musalmáns are the most powerful of all and comprise 12,153 Shaikhzádahs, 429 Sayyids, and 129 Patháns.

The occupations of the people are shown in the statistics collected at the census of 1872. From these it appears that of the male adult population (not less than fifteen years of age), 409 are employed in professional avocations, such as Government servants, priests, doctors, and the like; 2,088 in domestic service, as personal servants, water-carriers, barbers, sweepers, washermen, &c.; 1,449 in commerce, in buying, selling, keeping or lending money or goods; or the conveyance of men, animals, or goods; 4,382 in agricultural operations; 2,597 in industrial occupations, arts and mechanics, and the preparation of all classes of substances, vegetable, mineral, and animal. There were 3,004 persons returned as labourers and 488 as of no specified occupation. Taking the total population, irrespective of age or sex, the same returns give 321 as landholders, 11,099 as cultivators, and 30,508 as engaged in occupations unconnected with agriculture. The educational statistics, which are confessedly imperfect, show 1,092 males as able to read and write out of a total male population numbering 22,455 souls. The parganah is known in the *Ain-i-Akbari* under the name of Thána Bhím, but the name Thána Bhawan has been fixed for a long time. In 1840-41 the parganah was broken up: 28 villages were transferred to other parganahs, and the 44 villages remaining formed the nucleus of a new parganah, to which

was added one village each from parganahs Saháranpur and Deoband, three from Gangoh, two from Chaunsat Kheri, and three from Nánauta, making 54 villages in all, assessed at Rs. 47,228. Of the villages transferred, Chartháwal, received 15 ; Baghra, 4 ; Gordhanpur, 1 ; Jhanjhána, 5 ; and Shámli, 3.

TISANG, a large village in parganah Shikárpur of the Muzaffarnagar district, is distant 17 miles from the civil station. The population in 1865 numbered 1,800 souls, and in 1872 there were 1,967 inhabitants, of whom a great proportion were Musalmáns. The zamíndár is a Sayyid and has recently built a new *musjid*. The site is somewhat raised, but on the north is a large depression known as the *jhil*, which carries off the drainage of the surrounding country for some miles. There are two good brick-built wells in the village in which the water is eighteen feet from the surface with a depth of fifteen feet. There is a small bazar here where supplies may be obtained. For some years there has been considerable sickness in the village : much of this must be due to the want of cleanliness, which appears to be characteristic of the villages in this district. Imdál Husain of Tisang obtained Jaula as a grant for services during the mutiny. Tisang was founded by Sayyid Hizabr Khán of the Kúndliwál branch of the Bárha Sayyids, who died in 1047 H. (1637 A.D.) His son was Zabardast Khán, and his brother was Sayyid Alam, who perished with the unfortunate Prince Shuja in Arakan.

GLOSSARY OF VERNACULAR TERMS USED IN THIS VOLUME.

A.

Ahrabs, cocones.
Agla, a soil, 8.
Alsi, linseed.
Amaltās, the *Cassia fistula*.
Anwāri, the Indian mullet, *Mugil corsila*.
Arhur, the edible grain, *Cajanus Bicolor*.
Asārā, the Hindu month corresponding to June-July.
Athbārya, a caste of money-lenders, 495.

B.

Babul the *Acacia Arabica*.
Bachwa, a species of fish.
Badhua, a species of fish.
Bājra, the *Penicillaria spicata*.
Bakra, a species of fish.
Ba-kund, a term used in division of crops, 74.
Bām, an eel.
Band, an embankment.
Bāngur, the uplands of the Duāb.
Bansi, a fishing rod.
Bārāh, a soil, 8.
Barha, a soil, 8.
Batāi, division of crops.
Bāwan, a cluster of 52 villages.
Bayār, an agricultural term, 247.
Bedan, tinder, est., 9.
Ber, the *Zizyphus jujuba*.
Behān, a species of fish.
Bhamarjāl, a fishing-net, 20.
Bhansāra, a species of fish.
Bhansār, rapids or eddies, 210.
Bhāgachāra, a kind of tenure, 203.
Bhoriya, a wolf.
Bhīr, a kind of soil, 7.
Bīgha, a measure of land.
Bīnāda, cotton-seed.
Bisra, a measure of land.
Biswadās, under-proprietors.
Biswadūt, a measure of land.
Bodli, a species of fish.
Bolār, a species of fish.

C.

Chaltā, the famine of 1840 *Sambat*.
Chulwa, a species of fish.
Cha an, preparation of hemp (*Cannabis Sativa*).
Chari, stalks of *jodr*, used as fodder.
Chank, a central space in a town used generally as a market-place.
Chonka, guard-house.
Chashāyat, a town-bundle, 426.
Chauk, a species of *Amaranth*.
Chhatak, the sixteenth part of a *seer*.
Chornār, title given to a Gūjar leader, 65.
Chutwā, a species of fish.

D.

Dābh, a species of grass, 187.
Dākra, a kind of soil, 7.
Dāl, split pulse.
Dān, the twentieth part of an Akbari rupee.
Dhāk, the *Eutea frondosa*.
Dhatwa, the *Datura alba*.
Dh. nhlī, a lever-well.
Dofastī, extra crops grown on land which has already borne one crop in the same year.
Dūa, a species of mustard.
Duhar, low marsh-lands.
Dūmat, loam.

E.

Ek-fasli, one-crop land.

F.

Farās, the tamarisk.
Fasli, the agricultural year.

G.

Ganda, a lixiviating trough, 36.
Gaon, a village.
Gariydī, the long-nosed alligator.
Ganj, a market-place.
Gaz, a yard measure.
Ghāt, a ferry.
Ghī, clarified butter.
Ghopar, a species of fish.
Ghūr, a species of fish.
Gtra, the sixteenth part of a *gaz*.
Got, a sub-division of a clan.
Gotra, a sub-division of a clan.
Gustār, a hyena.
Gūl, a small canal distributary.
Gūlar, the *Ficus glomerata*.
Gār, a preparation of sugar.

H.

Hara, a species of timber.
Harāraī, the van of the army, 596.
Hāth, a measure, a cubit.
Hingra, a harrow.
Hijri, the date of Muhammad's flight from Mecca.
Hiran, an antelope.

I.

Imli, the *Tamarindus Indica*.
Indiāyan bislombha, the colocynth gourd.
Istmrārī sanad, a grant in perpetuity.

J.

Jaedâd, land granted on military service.
Jâgir, a grant of land.
Jamalgota, the *Croton tiglium*.
Jâman, the *Eugenia Jambolanum*.
Jawâsa, a species of tamarisk.
Jazâil, a large gun or wall-piece.
Jhâo, the tamarisk.
Jhîgan, a species of timber.
Jhîl, a natural reservoir of water.
Jhînga, a prawn.
Jodr, the *Holcus sorghum*.

K.

Kâladâna, the *Pharbitis nil*.
Kallar, salt-infected marsh, 35.
Kan, *batai*, terms used in division of produce, 74.
Kâns, the *Saccharum spontaneum*.
Kâtrna, a species of fish.
Kath Karaunja, the *Gulandina Bonduc*.
Khâdir, low alluvial land along the bed of a river.
Khâdir mâtli, alluvial soil.
Khâkt, unirrigated land.
Khâri bolî, a dialect, 51.
Khâri, sulphate of Soda, 34.
Khastj, rain-crops.
Khar pakka, foot and mouth disease.
Khala-hi-zamîn, 202.
Kheral, a species of fish.
Khera, a mound, usually a deserted site.
Khilal, a dress of honor.
Khirnê, the *Mimusops Kanki*.
Kthar, the *Acacia Arabica*.
Kodo, the *Paspalum scorbiolatum*.
Kuchcha, as applied to roads and wells means unmetalled, without masonry.
Kusa, a grass.
Kusum, safflower (*Carthamus tinctorius*).
Kûl, a term used in division of produce, 74.
Kyârî, a solar evaporating pan, 36.

L.

Lahsora, the *Cordia myxa*.
Lanchar, a species of fish.
Lanchi, a species of fish.
Lâo, a run at a well.
Lobiya, the *Dolichos Sinensis*.

M.

Madâr, the *Calotropis gigantea*.
Mahârr, a species of fish.
Mahâwat, the winter rains.
Mahûa, the *Bassi latifolia*.
Majhola, a class of soil, 8.
Magar, the snub-nosed alligator.
Mardâna, the men's apartments.
Mandua, the *Eleusine corocana*.
Mâsh, the *Phaseolus Roxburghii*.
Masjid, a mosque.
Masûr, the *Ervum Lens*.
Mattiydr, a clay soil.
Maurâs, hereditary.

Moth, the *Phaseolus acutifolius*.
Mrar ka andj, an agricultural phrase, 298.
Moh, a species of fish.
Mondal, a species of fish.
Mukaddam, a head-man of a village.
Mukawari, a tenure held on a fixed revenue.
Muharidâr, the holder of a *muharari*.
Munda, a class of soil, 8.
Mûng, the *Phaseolus mungo*.
Mutisla, a mash for cattle, 19.

N.

Nâkâ, a man-eating alligator, 18.
Nunkâr, an allowance as maintenance.
Narenî, a species of fish.
Nîlgâi or *Auj*, the *Portia pictus*.
Nem, the *Azadirachta Indica*.
Nimak-harâm, a secondry, false to the salt.
Nisfi, half share in division of produce, 76.

P.

Pahikâskt, cultivators not resident in the village in which they cultivate.
Panaya, a species of fish.
Parhal, a kind of timber.
Patra, a species of fish.
Pattî, a sub-division of a village.
Pattidârî, a land-tenure.
Ptîya, a kind of soil like *pitota*, 7.
Pitota, a kind of soil, 7.
Pîpal, the *Ficus religiosa*.
Pânchi, tail-money for grazing, 5.
Pâta, a bundle of thatching grass, 102.
Purimahî, a species of fish.

R.

Rohi, the spring or cold-weather crops.
Ratherajal, a large fishing-net, 20.
Rajbaha, a canal distributary.
Ras, brine of lixivation, 37.
Rati, a weight.
Ransî, a kind of soil.
Reh, impure carbonate of soda.
Rendî, castor bean.
Rizka, lucerne grass.
Rohu, the Indian carp.
Ruhel, a species of fish.

S.

Sajjimatti, impure carbonate of soda.
Sâl, the *Shorea robusta*.
Sanal, a grant or patent.
Sanrat, the Hindu era.
Sarsa, Indian mustard.
Sauliya, a species of fish.
Sâwan, the Hindu month corresponding to July-August.
Sâwanuk, the *Oplismenus frumentaceum*.
Ser, a weight equal to 2.051 lbs. avoirdupois.
Sharah wikhî, a tenure, 551.
She-mahi, a species of fish.
Shikk, a division of a subah.

Shisham, the *Dalbergia Sissoo*.

Shora, salt-petro.

Shor, salt-infected marsh.

Seota, a kind of soil, 4.

Siht, a porcupine.

Singhara, water-caltrop, *Trapa bispinosa*.

Siras, the *Albizia speciosa*.

Sirwal, a river-weed.

Sisú, the *Dalbergia sissoo*.

Solar, a species of fish.

Somwāti andwas, see page 173.

Subahdā i, the chief of a subahdār.

Sudder Mālguzār, the principal person who engages with Government for the land revenue on behalf of the village community.

T.

Tāil Shāhi, lands assigned for the privy purse of the kings of Delhi.

Takhallus, a nom-de plume.

Takkāvi, agricultural advances.

Talukadāri, the holding of a talukadār.

Tangan, a species of fish.

Tāpa, a species of fish.

Tāra, a species of oil-seed.

Tarā, low-lying, moist land.

Thangdār, a receiver of stolen property.

Tihāra, a term used in division of produce, 74.

Tīla, a mound or hill.

Tān, the *Cedrela toona*.

U.

Urd, the *Phaseolus radiatus*.

Urs, a Musalmān religious gathering.

Usar, a barren unculturable soil.

Z.

Zabti, cash-rates for particular crops.

Zamīndāri, the holding of a zamīndār.

Zamīndār, a landholder.

Zanāna, the women's apartments.

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E R R A T A .

Errors in accentuation have not been corrected in this table, which completes the final revision to the end of the Bulandshahr District.

- Page 13, line 2 from top, *for* "are" *read* "is."
- " 23, line 14 from top, *for* "10,761 total of irrigated area in Khúrja," *read* "10,661."
- " 23, line 20 from top, *for* "17,292 total of irrigated area in Palásu," *read* "18,292."
- " 25, line 2 from top, *for* "sidghára," *read* "singhára."
- " 25, line 19 from top, *for* "maháwut," *read* "maháwat."
- " 31, line 23 from top, *for* "Tibegampur," *read* "Tilbegampur."
- " 52, line 18 from top, omit Bulandshahr and Khúrja.
- " 52, line 22 from top, *for* "6.955," *read* "6.959."
- " 52, line 23 from top, *for* "135," *read* "166."
- " 53, last line, *for* "Chaudera," *read* "Chaundera."
- " 59, line 13 from top, *for* "70, 78, 421, collections in 1868-69," *read* "10, 78, 421."
- " 71, line 21 from top, *for* "477 total of portions of villages still held by original proprietors," *read* "467."
- " 72, last column of table, *for* "311-6-2," *read* "411-6-2."
- " 72, last column of table, *for* "434-0-0," *read* "438-8-0."
- " 76, line 17 from top, *for* "finds its," *read* "find their."
- " 78, last line, *for* "22,23,007," *read* "22,23,206."
- " 88, line 5 from top, *for* "3,70,374," *read* "3,70,377."
- " 88, line 7 from top, *for* "21,67,933," *read* "21,69,933."
- " 90, line 5 from top, *for* "Englishman," *read* "Englishmen."
- " 105, line 34 from top, *for* "Bhísmak," *read* "Bhíshmak."
- " 112, total column of receipts 1871-72, *for* "6,945," *read* "6,946."
- " 112, total column of expenditure, *for* "6,132," *read* "6,102."
- " 116, line 18 from top, *for* "1,662," *read* "1,663."
- " 120, line 37 from top, *for* "asessment," *read* "assessment."
- " 128, total octroi in 1870-71, *for* "5,883," *read* "5,483."
- " 132, line 36 from top, *for* "39," *read* "37."
- " 140, line 2 from top, *for* "616," *read* "516."
- " 141, line 12 from top, *for* "3,257," *read* "3,267."
- " 152, last line of table, *for* "0-15-0 : 1-0-5 : 1-7-6, *read* "1-0-9 : 1-2-4 : 1-10-4."

- Page 154, line 15 from top, for "13,303," read "1,303."
- „ 155, line 2 from top, for "Chhainar," read "Chhainsa."
- „ 155, line 35 from top, for "east," read "west."
- „ 159, line 5 from top, for "are," read "is."
- „ 160, miscellaneous expenditure in 1871-72, for "139," read "238."
- „ 171, line 1 from top, for "only two," read "five."
- „ 171, line 2 from top, for "twelve," read "seven."
- „ 171, first line of table, for "0-11-11 : 1-1-1 $\frac{1}{2}$: 1-8-5," read "0-15-3 : 1-1-5 : 1-8-11."
- „ 171, second line of table, for "1-9-9," read "1-9-6."
- „ 177, line 33 from top, for "khaga," read "khági."
- „ 178, line 18 from top, for "1814," read "1842."
- „ 178, line 37 from top, for "details differ in census," read "Vol. I. pp. 210, 345."
- „ 181, last line, for "15," read "13."
- „ 182, first line, for "25," read "6."
- „ 182, first line of table, for "0-12-4 $\frac{1}{2}$: 0-14-1 : 1-9-9 $\frac{1}{2}$," read "0-13-1 $\frac{1}{2}$: 0-14-11 : 1-11-4."
- „ 190, last line, for "3,123, 2,044," read "3,723, 2,051."
- „ 191, line 4 from top, for "Charásya," read "Chaurasiya."
- „ 191, line 31 from top, for "51,685," read "48,685."
- „ 193, line 6 from top, for "3,70,371," read "3,70,377."
- „ 196, last line, for "200·09," read "2,200·09."
- „ 309, line 13 from top, for "500," read "50."
- „ 642, last but one, for "Mr. Elliot in Meerut," read "Mr. Thornton, in 1841."
- „ 681, line 30 from top, for "Panhara," read "Paimora."
- „ 689, line 26 from top, for "Kasári," read "Kasiára."
- „ 695, line 33 from top, omit "called the Rawa."
- „ 705, line 14 from top, for "Jakhrauda," read "Jarauda."
- „ 723, line 14 from top, for "has," read "have."

